

Ballfields Parcels at DoDHF Novato, CA
Data Validation Reports
LDC# 13575

Metals

LDC

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Ballfields Parcels at DoDHF Novato, CA
Collection Date: April 6, 2005
LDC Report Date: June 8, 2005
Matrix: Soil
Parameters: Metals
Validation Level: NFESC Level III
Laboratory: Columbia Analytical Services, Inc.
Sample Delivery Group (SDG): K2502497

Sample Identification

TO63-R2-SB04-0-0.5	TO63-R2-SB04-0-0.5MS
TO63-R2-SB04-3-4	TO63-R2-SB04-0-0.5DUP
TO63-R2-SB01-0-0.5	TO63-R4-SB04-0-0.5MS
TO63-R2-SB01-0-0.5 Dup	TO63-R4-SB04-0-0.5DUP
TO63-R2-SB01-1-2	
TO63-R1-SB04-0-0.5	
TO63-R1-SB04-4-5	
TO63-R1-SB01-0-0.5	
TO63-R1-SB03-0-0.5	
TO63-R1-SB03-4-5	
TO63-R4-SB04-0-0.5	
TO63-R4-SB04-4-5	
TO63-R5-SB04-0-0.5	
TO63-R5-SB04-5-6	
TO63-R5-SB02-0-0.5	
TO63-R5-SB02-3-4	
TO63-R5-SB01-0-0.5	
TO63-R5-SB03-0-0.5	
TO63-R2-SB03-0-0.5	
TO63-R2-SB02-0-0.5	

Introduction

This data review covers 24 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010, 7000 and EPA Method 200.8 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

The review follows the Final Sampling and Analysis Plan for Preliminary Assessment/Site Investigation of Ballfields Parcels at DoDHF Novato, California, (March 23, 2005) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Mercury	0.02 mg/Kg	All samples in SDG K2502497
ICB/CCB	Mercury Nickel Silver Thallium	0.16 ug/L 0.14 ug/L 0.009 ug/L 0.005 ug/L	All samples in SDG K2502497

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
TO63-R2-SB04-0-0.5	Mercury	0.04 mg/Kg	0.04U mg/Kg
TO63-R2-SB04-3-4	Mercury	0.08 mg/Kg	0.08U mg/Kg
TO63-R2-SB01-0-0.5	Mercury	0.09 mg/Kg	0.09U mg/Kg

Sample	Analyte	Reported Concentration	Modified Final Concentration
TO63-R2-SB01-0-0.5 Dup	Mercury	0.09 mg/Kg	0.09U mg/Kg
TO63-R2-SB01-1-2	Mercury	0.06 mg/Kg	0.06U mg/Kg
TO63-R1-SB04-0-0.5	Mercury	0.09 mg/Kg	0.09U mg/Kg
TO63-R1-SB04-4-5	Mercury	0.06 mg/Kg	0.06U mg/Kg
TO63-R1-SB03-4-5	Mercury	0.05 mg/Kg	0.05U mg/Kg
TO63-R4-SB04-0-0.5	Mercury	0.05 mg/Kg	0.05U mg/Kg
TO63-R4-SB04-4-5	Mercury	0.06 mg/Kg	0.06U mg/Kg
TO63-R5-SB04-0-0.5	Mercury	0.04 mg/Kg	0.04U mg/Kg
TO63-R5-SB04-5-6	Mercury	0.07 mg/Kg	0.07U mg/Kg
TO63-R5-SB02-0-0.5	Mercury	0.04 mg/Kg	0.04U mg/Kg
TO63-R5-SB02-3-4	Mercury	0.07 mg/Kg	0.07U mg/Kg
TO63-R5-SB01-0-0.5	Mercury	0.06 mg/Kg	0.06U mg/Kg
TO63-R5-SB03-0-0.5	Mercury	0.05 mg/Kg	0.05U mg/Kg
TO63-R2-SB03-0-0.5	Mercury	0.07 mg/Kg	0.07U mg/Kg
TO63-R2-SB02-0-0.5	Mercury	0.10 mg/Kg	0.10U mg/Kg

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
TO63-R2-SB04-3-4 TO63-R2-SB01-0-0.5 TO63-R1-SB04-4-5 TO63-R1-SB03-4-5 TO63-R4-SB04-4-5 TO63-R5-SB04-5-6 TO63-R5-SB02-3-4 TO63-R2-SB02-0-0.5	Molybdenum	This metal was not spiked in ICSAB.	This metal is potentially affected by common interferences and should be spiked in ICSAB.	J (all detects) UJ (all non-detects)	P

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	%R (Limits)	Flag	A or P
TO63-R2-SB04-0-0.5MS (All samples in SDG K2502497)	Antimony	29 (70-130)	J (all detects) R (all non-detects)	A
TO63-R4-SB04-0-0.5MS (All samples in SDG K2502497)	Antimony	33 (70-130)	J (all detects) UJ (all non-detects)	A

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits with the following exceptions:

DUP ID (Associated Samples)	Analyte	RPD (Limits)	Difference (Limits)	Flag	A or P
TO63-R4-SB04-0-0.5DUP (All samples in SDG K2502497)	Nickel	34 (≤ 30)	-	J (all detects) UJ (all non-detects)	A

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Internal Standards (ICP-MS)

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not reviewed for this SDG.

X. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag	A or P
TO63-R5-SB02-3-4L	Vanadium	12 (≤ 10)	All samples in SDG K2502497	J (all detects)	A

XI. Sample Result Verification

Raw data were not reviewed for this SDG.

XII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIII. Field Duplicates

Samples TO63-R2-SB01-0-0.5 and TO63-R2-SB01-0-0.5 Dup and samples TO63-R1-SB01-0-0.5 and TO63-R1-SB01-0-0.5Dup (from SDG K2502499) were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/Kg)		RPD
	TO63-R2-SB01-0-0.5	TO63-R2-SB01-0-0.5 Dup	
Antimony	0.13	0.14	7
Arsenic	3.70	3.04	20
Barium	62.8	123	65
Beryllium	0.82	1.04	24
Chromium	114	78.3	37
Cobalt	15.5	27.0	54

Analyte	Concentration (mg/Kg)		RPD
	TO63-R2-SB01-0-0.5	TO63-R2-SB01-0-0.5 Dup	
Copper	42.3	27.2	43
Lead	19.2	12.3	44
Mercury	0.09	0.09	0
Nickel	57.1	41.6	31
Selenium	0.4	0.4	0
Silver	0.380	0.681	57
Thallium	0.166	0.120	32
Vanadium	94.7	68.1	33
Zinc	101	73.8	31

XIV. Field Blanks

No field blanks were identified in this SDG.

Ballfields Parcels at DoDHF Novato, CA
Metals - Data Qualification Summary - SDG K2502497

SDG	Sample	Analyte	Flag	A or P	Reason
K2502497	TO63-R2-SB04-3-4 TO63-R2-SB01-0-0.5 TO63-R1-SB04-4-5 TO63-R1-SB03-4-5 TO63-R4-SB04-4-5 TO63-R5-SB04-5-6 TO63-R5-SB02-3-4 TO63-R2-SB02-0-0.5	Molybdenum	J (all detects) UJ (all non-detects)	P	ICP interference check
K2502497	TO63-R2-SB04-0-0.5 TO63-R2-SB04-3-4 TO63-R2-SB01-0-0.5 TO63-R2-SB01-0-0.5 Dup TO63-R2-SB01-1-2 TO63-R1-SB04-0-0.5 TO63-R1-SB04-4-5 TO63-R1-SB01-0-0.5 TO63-R1-SB03-0-0.5 TO63-R1-SB03-4-5 TO63-R4-SB04-0-0.5 TO63-R4-SB04-4-5 TO63-R5-SB04-0-0.5 TO63-R5-SB04-5-6 TO63-R5-SB02-0-0.5 TO63-R5-SB02-3-4 TO63-R5-SB01-0-0.5 TO63-R5-SB03-0-0.5 TO63-R2-SB03-0-0.5 TO63-R2-SB02-0-0.5	Antimony	J (all detects) R (all non-detects)	A	Matrix spike analysis (%R)
K2502497	TO63-R2-SB04-0-0.5 TO63-R2-SB04-3-4 TO63-R2-SB01-0-0.5 TO63-R2-SB01-0-0.5 Dup TO63-R2-SB01-1-2 TO63-R1-SB04-0-0.5 TO63-R1-SB04-4-5 TO63-R1-SB01-0-0.5 TO63-R1-SB03-0-0.5 TO63-R1-SB03-4-5 TO63-R4-SB04-0-0.5 TO63-R4-SB04-4-5 TO63-R5-SB04-0-0.5 TO63-R5-SB04-5-6 TO63-R5-SB02-0-0.5 TO63-R5-SB02-3-4 TO63-R5-SB01-0-0.5 TO63-R5-SB03-0-0.5 TO63-R2-SB03-0-0.5 TO63-R2-SB02-0-0.5	Antimony	J (all detects) UJ (all non-detects)	A	Matrix spike analysis (%R)

SDG	Sample	Analyte	Flag	A or P	Reason
K2502497	TO63-R2-SB04-0-0.5 TO63-R2-SB04-3-4 TO63-R2-SB01-0-0.5 TO63-R2-SB01-0-0.5 Dup TO63-R2-SB01-1-2 TO63-R1-SB04-0-0.5 TO63-R1-SB04-4-5 TO63-R1-SB01-0-0.5 TO63-R1-SB03-0-0.5 TO63-R1-SB03-4-5 TO63-R4-SB04-0-0.5 TO63-R4-SB04-4-5 TO63-R5-SB04-0-0.5 TO63-R5-SB04-5-6 TO63-R5-SB02-0-0.5 TO63-R5-SB02-3-4 TO63-R5-SB01-0-0.5 TO63-R5-SB03-0-0.5 TO63-R2-SB03-0-0.5 TO63-R2-SB02-0-0.5	Nickel	J (all detects) UJ (all non-detects)	A	Duplicate analysis (RPD)
K2502497	TO63-R2-SB04-0-0.5 TO63-R2-SB04-3-4 TO63-R2-SB01-0-0.5 TO63-R2-SB01-0-0.5 Dup TO63-R2-SB01-1-2 TO63-R1-SB04-0-0.5 TO63-R1-SB04-4-5 TO63-R1-SB01-0-0.5 TO63-R1-SB03-0-0.5 TO63-R1-SB03-4-5 TO63-R4-SB04-0-0.5 TO63-R4-SB04-4-5 TO63-R5-SB04-0-0.5 TO63-R5-SB04-5-6 TO63-R5-SB02-0-0.5 TO63-R5-SB02-3-4 TO63-R5-SB01-0-0.5 TO63-R5-SB03-0-0.5 TO63-R2-SB03-0-0.5 TO63-R2-SB02-0-0.5	Vanadium	J (all detects)	A	ICP serial dilution (%D)

Ballfields Parcels at DoDHF Novato, CA
Metals - Laboratory Blank Data Qualification Summary - SDG K2502497

SDG	Sample	Analyte	Modified Final Concentration	A or P
K2502497	TO63-R2-SB04-0-0.5	Mercury	0.04U mg/Kg	A
K2502497	TO63-R2-SB04-3-4	Mercury	0.08U mg/Kg	A
K2502497	TO63-R2-SB01-0-0.5	Mercury	0.09U mg/Kg	A

SDG	Sample	Analyte	Modified Final Concentration	A or P
K2502497	TO63-R2-SB01-0-0.5 Dup	Mercury	0.09U mg/Kg	A
K2502497	TO63-R2-SB01-1-2	Mercury	0.06U mg/Kg	A
K2502497	TO63-R1-SB04-0-0.5	Mercury	0.09U mg/Kg	A
K2502497	TO63-R1-SB04-4-5	Mercury	0.06U mg/Kg	A
K2502497	TO63-R1-SB03-4-5	Mercury	0.05U mg/Kg	A
K2502497	TO63-R4-SB04-0-0.5	Mercury	0.05U mg/Kg	A
K2502497	TO63-R4-SB04-4-5	Mercury	0.06U mg/Kg	A
K2502497	TO63-R5-SB04-0-0.5	Mercury	0.04U mg/Kg	A
K2502497	TO63-R5-SB04-5-6	Mercury	0.07U mg/Kg	A
K2502497	TO63-R5-SB02-0-0.5	Mercury	0.04U mg/Kg	A
K2502497	TO63-R5-SB02-3-4	Mercury	0.07U mg/Kg	A
K2502497	TO63-R5-SB01-0-0.5	Mercury	0.06U mg/Kg	A
K2502497	TO63-R5-SB03-0-0.5	Mercury	0.05U mg/Kg	A
K2502497	TO63-R2-SB03-0-0.5	Mercury	0.07U mg/Kg	A
K2502497	TO63-R2-SB02-0-0.5	Mercury	0.10U mg/Kg	A

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R2-SB04-0-0.5

Lab Code: K2502497-001

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.10		N
Arsenic	200.8	0.57	0.06	5	4/14/05	4/22/05	2.23		
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	244		
Beryllium	6010B	1.12	0.03	2	4/14/05	4/28/05	0.80	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	U	
Chromium	6010B	2.24	0.56	2	4/14/05	4/28/05	14.7		
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	10.3		
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	4.7		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	9.68		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.04		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	U	
Nickel	200.8	0.23	0.05	5	4/14/05	4/22/05	19.4		*
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.2	B	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.336		
Thallium	200.8	0.023	0.002	5	4/14/05	4/22/05	0.083		
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	23.8		
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	27.2		

% Solids: 88.4

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R2-SB04-3-4

Lab Code: K2502497-002

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.09	N	J
Arsenic	200.8	0.47	0.05	5	4/14/05	4/22/05	8.28		
Barium	6010B	0.9	0.2	2	4/14/05	4/28/05	39.9		
Beryllium	6010B	0.95	0.03	2	4/14/05	4/28/05	0.51	B	
Cadmium	6010B	0.9	0.1	2	4/14/05	4/28/05	0.1	U	
Chromium	6010B	1.90	0.47	2	4/14/05	4/28/05	96.9		
Cobalt	6010B	1.9	0.3	2	4/14/05	4/28/05	10.4		
Copper	6010B	1.9	1.9	2	4/14/05	4/28/05	36.0		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	11.1		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.08		U
Molybdenum	6010B	1.9	1.9	2	4/14/05	4/28/05	1.9	U	U
Nickel	200.8	0.19	0.04	5	4/14/05	4/22/05	39.8	*	J
Selenium	200.8	0.9	0.1	5	4/14/05	4/22/05	0.5	B	
Silver	200.8	0.019	0.003	5	4/14/05	4/15/05	0.119		
Thallium	200.8	0.019	0.002	5	4/14/05	4/22/05	0.157		
Vanadium	6010B	1.9	0.6	2	4/14/05	4/28/05	79.5		J
Zinc	6010B	1.9	0.3	2	4/14/05	4/28/05	83.0		

% Solids: 57.9

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R2-SB01-0-0.5

Lab Code: K2502497-003

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.13		N
Arsenic	200.8	0.55	0.05	5	4/14/05	4/22/05	3.70		
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	62.8		
Beryllium	6010B	1.10	0.03	2	4/14/05	4/28/05	0.82	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	U	
Chromium	6010B	2.19	0.55	2	4/14/05	4/28/05	114		
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	15.5		
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	42.3		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	19.2		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.09		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	57.1		*
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.4	B	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.380		
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.166		
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	94.7		
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	101		

% Solids: 64.7

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R2-SB01-0-0.5 DUF

Lab Code: K2502497-004

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.14		N
Arsenic	200.8	0.51	0.05	5	4/14/05	4/22/05	3.04		
Barium	6010B	1.0	0.2	2	4/14/05	4/28/05	123		
Beryllium	6010B	1.03	0.03	2	4/14/05	4/28/05	1.04		
Cadmium	6010B	1.0	0.1	2	4/14/05	4/28/05	0.1	U	
Chromium	6010B	2.06	0.52	2	4/14/05	4/28/05	78.3		
Cobalt	6010B	2.1	0.3	2	4/14/05	4/28/05	27.0		
Copper	6010B	2.1	2.1	2	4/14/05	4/28/05	27.2		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	12.3		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.09		
Molybdenum	6010B	2.1	2.1	2	4/14/05	4/28/05	2.1	U	
Nickel	200.8	0.20	0.04	5	4/14/05	4/22/05	41.6		*
Selenium	200.8	1.0	0.1	5	4/14/05	4/22/05	0.4	B	
Silver	200.8	0.021	0.003	5	4/14/05	4/15/05	0.681		
Thallium	200.8	0.020	0.002	5	4/14/05	4/22/05	0.120		
Vanadium	6010B	2.1	0.6	2	4/14/05	4/28/05	68.1		
Zinc	6010B	2.1	0.3	2	4/14/05	4/28/05	73.8		

% Solids: 69.4

Comments:

6/20/05

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R2-SB01-1-2

Lab Code: K2502497-005

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.11		N
Arsenic	200.8	0.54	0.05	5	4/14/05	4/22/05	9.21		
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	58.8		
Beryllium	6010B	1.09	0.03	2	4/14/05	4/28/05	0.71	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	U	
Chromium	6010B	2.18	0.55	2	4/14/05	4/28/05	104		
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	10.6		
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	35.7		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	12.4		
Mercury	7471A	0.01	0.01	1	4/11/05	4/13/05	0.06		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	38.0		*
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.6	B	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.108		
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.158		
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	84.4		
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	81.6		

% Solids: 65.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R1-SB04-0-0.5

Lab Code: K2502497-006

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.11		N
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	2.51		
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	275		
Beryllium	6010B	1.11	0.03	2	4/14/05	4/28/05	0.72	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	U	
Chromium	6010B	2.22	0.56	2	4/14/05	4/28/05	14.0		
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	6.2		
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	4.5		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	9.08		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.09		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	15.9		*
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.1	U	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.091		
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.093		
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	19.4		
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	38.0		

% Solids: 88.3

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R1-SB04-4-5

Lab Code: K2502497-007

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.10		N
Arsenic	200.8	0.46	0.05	5	4/14/05	4/22/05	4.55		
Barium	6010B	0.9	0.2	2	4/14/05	4/28/05	40.6		
Beryllium	6010B	0.94	0.03	2	4/14/05	4/28/05	0.66	B	
Cadmium	6010B	0.9	0.1	2	4/14/05	4/28/05	0.1	U	
Chromium	6010B	1.87	0.47	2	4/14/05	4/28/05	112		
Cobalt	6010B	1.9	0.3	2	4/14/05	4/28/05	14.9		
Copper	6010B	1.9	1.9	2	4/14/05	4/28/05	31.2		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	7.10		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.06		
Molybdenum	6010B	1.9	1.9	2	4/14/05	4/28/05	1.9	U	
Nickel	200.8	0.19	0.04	5	4/14/05	4/22/05	55.0		*
Selenium	200.8	0.9	0.1	5	4/14/05	4/22/05	0.2	B	
Silver	200.8	0.019	0.003	5	4/14/05	4/15/05	0.084		
Thallium	200.8	0.019	0.002	5	4/14/05	4/22/05	0.162		
Vanadium	6010B	1.9	0.6	2	4/14/05	4/28/05	87.9		
Zinc	6010B	1.9	0.3	2	4/14/05	4/28/05	93.0		

% Solids: 59.1

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R1-SB01-0-0.5

Lab Code: K2502497-008

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.23		N
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	2.58		
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	198		
Beryllium	6010B	1.11	0.03	2	4/14/05	4/28/05	0.76	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	U	
Chromium	6010B	2.21	0.55	2	4/14/05	4/28/05	17.4		
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	7.9		
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	7.7		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	20.9		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.11		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	24.2		*
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.2	B	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.193		
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.088		
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	23.1		
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	38.1		

% Solids: 89.4

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R1-SB03-0-0.5

Lab Code: K2502497-009

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.31		N
Arsenic	200.8	0.60	0.06	5	4/14/05	4/22/05	2.62		
Barium	6010B	1.2	0.2	2	4/14/05	4/28/05	114		
Beryllium	6010B	1.20	0.04	2	4/14/05	4/28/05	0.52	B	
Cadmium	6010B	1.2	0.1	2	4/14/05	4/28/05	0.2	B	
Chromium	6010B	2.40	0.60	2	4/14/05	4/28/05	28.7		
Cobalt	6010B	2.4	0.4	2	4/14/05	4/28/05	6.8		
Copper	6010B	2.4	2.4	2	4/14/05	4/28/05	11.3		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	30.1		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.28		
Molybdenum	6010B	2.4	2.4	2	4/14/05	4/28/05	2.4	U	
Nickel	200.8	0.24	0.05	5	4/14/05	4/22/05	21.4		*
Selenium	200.8	1.2	0.1	5	4/14/05	4/22/05	0.2	B	
Silver	200.8	0.024	0.004	5	4/14/05	4/15/05	1.610		
Thallium	200.8	0.024	0.002	5	4/14/05	4/22/05	0.070		
Vanadium	6010B	2.4	0.7	2	4/14/05	4/28/05	22.7		
Zinc	6010B	2.4	0.4	2	4/14/05	4/28/05	52.3		

% Solids: 81.6

Comments:

6/20/05

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R1-SB03-4-5

Lab Code: K2502497-010

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.08		N
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	6.71		
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	44.3		
Beryllium	6010B	1.10	0.03	2	4/14/05	4/28/05	0.49	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	U	
Chromium	6010B	2.20	0.55	2	4/14/05	4/28/05	84.8		
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	9.7		
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	27.3		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	14.1		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.05		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	42.1		*
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.5	B	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.119		
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.151		
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	61.1		
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	68.0		

% Solids: 64.1

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R4-SB04-0-0.5

Lab Code: K2502497-011

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.10		N
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	1.85		
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	190		
Beryllium	6010B	1.13	0.03	2	4/14/05	4/28/05	0.93	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	U	
Chromium	6010B	2.26	0.56	2	4/14/05	4/28/05	15.5		
Cobalt	6010B	2.3	0.3	2	4/14/05	4/28/05	16.5		
Copper	6010B	2.3	2.3	2	4/14/05	4/28/05	7.5		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	14.1		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.05		
Molybdenum	6010B	2.3	2.3	2	4/14/05	4/28/05	2.3	U	
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	28.7		*
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.3	B	
Silver	200.8	0.023	0.003	5	4/14/05	4/15/05	2.950		
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.093		
Vanadium	6010B	2.3	0.7	2	4/14/05	4/28/05	25.0		
Zinc	6010B	2.3	0.3	2	4/14/05	4/28/05	29.9		

% Solids: 87.8

Comments:

6/20/05

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R4-SB04-4-5

Lab Code: K2502497-012

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.11		N
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	8.43		
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	59.0		
Beryllium	6010B	1.13	0.03	2	4/14/05	4/28/05	0.71	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	U	
Chromium	6010B	2.26	0.56	2	4/14/05	4/28/05	103		
Cobalt	6010B	2.3	0.3	2	4/14/05	4/28/05	21.8		
Copper	6010B	2.3	2.3	2	4/14/05	4/28/05	34.0		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	29.1		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.06		
Molybdenum	6010B	2.3	2.3	2	4/14/05	4/28/05	2.3	U	
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	50.7		*
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.3	B	
Silver	200.8	0.023	0.003	5	4/14/05	4/15/05	3.080		
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.161		
Vanadium	6010B	2.3	0.7	2	4/14/05	4/28/05	82.5		
Zinc	6010B	2.3	0.3	2	4/14/05	4/28/05	89.3		

% Solids: 62.4

Comments:

6/20/05

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R5-SB04-0-0.5

Lab Code: K2502497-013

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.10		N
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	1.79		
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	188		
Beryllium	6010B	1.10	0.03	2	4/14/05	4/28/05	1.07	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	U	
Chromium	6010B	2.21	0.55	2	4/14/05	4/28/05	17.3		
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	9.0		
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	4.8		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	9.61		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.04		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	24.4		*
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.1	B	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.131		
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.113		
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	27.2		
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	30.5		

% Solids: 88.8

Comments:

6/20/05

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R5-SB04-5-6

Lab Code: K2502497-014

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.09		N
Arsenic	200.8	0.48	0.05	5	4/14/05	4/22/05	4.46		
Barium	6010B	0.9	0.2	2	4/14/05	4/28/05	40.5		
Beryllium	6010B	0.94	0.03	2	4/14/05	4/28/05	0.80	B	
Cadmium	6010B	0.9	0.1	2	4/14/05	4/28/05	0.1	U	
Chromium	6010B	1.88	0.47	2	4/14/05	4/28/05	88.3		
Cobalt	6010B	1.9	0.3	2	4/14/05	4/28/05	11.7		
Copper	6010B	1.9	1.9	2	4/14/05	4/28/05	31.9		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	10.7		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.07		
Molybdenum	6010B	1.9	1.9	2	4/14/05	4/28/05	1.9	U	
Nickel	200.8	0.19	0.04	5	4/14/05	4/22/05	54.0		*
Selenium	200.8	1.0	0.1	5	4/14/05	4/22/05	0.5	B	
Silver	200.8	0.019	0.003	5	4/14/05	4/15/05	0.088		
Thallium	200.8	0.019	0.002	5	4/14/05	4/22/05	0.143		
Vanadium	6010B	1.9	0.6	2	4/14/05	4/28/05	69.1		
Zinc	6010B	1.9	0.3	2	4/14/05	4/28/05	95.0		

% Solids: 58.5

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R5-SB02-0-0.5

Lab Code: K2502497-015

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.22		N
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	1.92		
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	162		
Beryllium	6010B	1.11	0.03	2	4/14/05	4/28/05	0.91	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.2	B	
Chromium	6010B	2.23	0.56	2	4/14/05	4/28/05	15.3		
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	10.1		
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	5.8		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	10.6		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.04		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	U	
Nickel	200.8	0.23	0.05	5	4/14/05	4/22/05	22.0		*
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.2	B	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.026		
Thallium	200.8	0.023	0.002	5	4/14/05	4/22/05	0.098		
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	23.4		
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	29.8		

% Solids: 88.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R5-SB02-3-4

Lab Code: K2502497-016

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.14		N
Arsenic	200.8	0.47	0.05	5	4/14/05	4/22/05	5.87		
Barium	6010B	1.0	0.2	2	4/14/05	4/28/05	45.4		
Beryllium	6010B	0.95	0.03	2	4/14/05	4/28/05	0.76	B	
Cadmium	6010B	1.0	0.1	2	4/14/05	4/28/05	0.1	U	
Chromium	6010B	1.91	0.48	2	4/14/05	4/28/05	114		
Cobalt	6010B	1.9	0.3	2	4/14/05	4/28/05	14.7		
Copper	6010B	1.9	1.9	2	4/14/05	4/28/05	34.9		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	7.15		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.07		
Molybdenum	6010B	1.9	1.9	2	4/14/05	4/28/05	1.9	U	
Nickel	200.8	0.19	0.04	5	4/14/05	4/22/05	60.5		*
Selenium	200.8	0.9	0.1	5	4/14/05	4/22/05	0.4	B	
Silver	200.8	0.019	0.003	5	4/14/05	4/15/05	0.065		
Thallium	200.8	0.019	0.002	5	4/14/05	4/22/05	0.174		
Vanadium	6010B	1.9	0.6	2	4/14/05	4/28/05	88.5		
Zinc	6010B	1.9	0.3	2	4/14/05	4/28/05	100		

% Solids: 58.3

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R5-SB01-0.0.5

Lab Code: K2502497-017

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.19		N
Arsenic	200.8	0.60	0.06	5	4/14/05	4/22/05	3.12		
Barium	6010B	1.2	0.2	2	4/14/05	4/28/05	138		
Beryllium	6010B	1.20	0.04	2	4/14/05	4/28/05	0.92	B	
Cadmium	6010B	1.2	0.1	2	4/14/05	4/28/05	0.3	B	
Chromium	6010B	2.40	0.60	2	4/14/05	4/28/05	38.7		
Cobalt	6010B	2.4	0.4	2	4/14/05	4/28/05	10.9		
Copper	6010B	2.4	2.4	2	4/14/05	4/28/05	15.0		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	17.6		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.06		
Molybdenum	6010B	2.4	2.4	2	4/14/05	4/28/05	2.4	U	
Nickel	200.8	0.24	0.05	5	4/14/05	4/22/05	39.7		*
Selenium	200.8	1.2	0.1	5	4/14/05	4/22/05	0.2	B	
Silver	200.8	0.024	0.004	5	4/14/05	4/15/05	0.116		
Thallium	200.8	0.024	0.002	5	4/14/05	4/22/05	0.113		
Vanadium	6010B	2.4	0.7	2	4/14/05	4/28/05	38.3		
Zinc	6010B	2.4	0.4	2	4/14/05	4/28/05	57.4		

% Solids: 80.8

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R5-SB03-0.0.5

Lab Code: K2502497-018

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.09		N
Arsenic	200.8	0.54	0.05	5	4/14/05	4/22/05	2.00		
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	142		
Beryllium	6010B	1.09	0.03	2	4/14/05	4/28/05	0.97	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	U	
Chromium	6010B	2.18	0.54	2	4/14/05	4/28/05	14.4		
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	7.5		
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	5.8		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	78.1		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.05		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	18.5		*
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.4	B	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.034		
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.112		
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	21.8		
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	36.6		

% Solids: 91.9

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R2-SB03-0.0.5

Lab Code: K2502497-019

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.13		N
Arsenic	200.8	0.55	0.05	5	4/14/05	4/22/05	8.31		
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	108		
Beryllium	6010B	1.09	0.03	2	4/14/05	4/28/05	0.91	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	B	
Chromium	6010B	2.18	0.55	2	4/14/05	4/28/05	76.3		
Cobalt	6010B	2.2	0.3	2	4/14/05	4/28/05	8.1		
Copper	6010B	2.2	2.2	2	4/14/05	4/28/05	22.7		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	11.4		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.07		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/28/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	40.4		*
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.5	B	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.117		
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.148		
Vanadium	6010B	2.2	0.7	2	4/14/05	4/28/05	64.1		
Zinc	6010B	2.2	0.3	2	4/14/05	4/28/05	65.5		

% Solids: 65.1

Comments:

6/20/05

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502497

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R2-SB02-0.0.5

Lab Code: K2502497-020

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.20		N
Arsenic	200.8	0.57	0.06	5	4/14/05	4/22/05	12.3		
Barium	6010B	1.1	0.2	2	4/14/05	4/28/05	53.6		
Beryllium	6010B	1.13	0.03	2	4/14/05	4/28/05	0.55	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	4/28/05	0.1	U	
Chromium	6010B	2.27	0.57	2	4/14/05	4/28/05	107		
Cobalt	6010B	2.3	0.3	2	4/14/05	4/28/05	10.9		
Copper	6010B	2.3	2.3	2	4/14/05	4/28/05	40.7		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	11.5		
Mercury	7471A	0.02	0.01	1	4/11/05	4/13/05	0.10		
Molybdenum	6010B	2.3	2.3	2	4/14/05	4/28/05	2.6		
Nickel	200.8	0.23	0.05	5	4/14/05	4/22/05	39.4		*
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.6	B	
Silver	200.8	0.023	0.003	5	4/14/05	4/15/05	0.125		
Thallium	200.8	0.023	0.002	5	4/14/05	4/22/05	0.162		
Vanadium	6010B	2.3	0.7	2	4/14/05	4/28/05	83.7		
Zinc	6010B	2.3	0.3	2	4/14/05	4/28/05	78.8		

% Solids: 63.0

Comments:

LDC #: 13575A4

VALIDATION COMPLETENESS WORKSHEET

Date: 6-7-05

SDG #: K2502497

Level III

Page: 1 of 1

Laboratory: Columbia Analytical Services

Reviewer: MG

2nd Reviewer: LM

mg

METHOD: Metals (EPA SW 846 Method 6010B/7000)/200.8

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-6-05
II.	Calibration	A	
III.	Blanks	SW	
IV.	ICP Interference Check Sample (ICS) Analysis	SW	
V.	Matrix Spike Analysis	SW	MS
VI.	Duplicate Sample Analysis	SW	DUP
VII.	Laboratory Control Samples (LCS) <i>mg</i>	SWA	LCS
VIII.	Internal Standard (ICP-MS)	N	Not utilized
IX.	Furnace Atomic Absorption QC	N	Not reviewed
X.	ICP Serial Dilution	SW	
XI.	Sample Result Verification	N	
XII.	Overall Assessment of Data	A	
XIII.	Field Duplicates	SW	D = 3 + 4, D = 8 + TO63-R1-SB01-0-0.5 DUP
XIV.	Field Blanks	N	(SDG: K2502499)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

all soil

1	TO63-R2-SB04-0-0.5	11	TO63-R4-SB04-0-0.5	21	TO63-R2-SB04-0-0.5MS	31	
2	TO63-R2-SB04-3-4	12	TO63-R4-SB04-4-5	22	TO63-R2-SB04-0-0.5DUP	32	
3	TO63-R2-SB01-0-0.5	13	TO63-R5-SB04-0-0.5	23	TO63-R4-SB04-0-0.5MS	33	
4	TO63-R2-SB01-0-0.5 Dup	14	TO63-R5-SB04-5-6	24	TO63-R4-SB04-0-0.5DUP	34	
5	TO63-R2-SB01-1-2	15	TO63-R5-SB02-0-0.5	25	PBS	35	
6	TO63-R1-SB04-0-0.5	16	TO63-R5-SB02-3-4	26		36	
7	TO63-R1-SB04-4-5	17	TO63-R5-SB01-0-0.5	27		37	
8	TO63-R1-SB01-0-0.5	18	TO63-R5-SB03-0-0.5	28		38	
9	TO63-R1-SB03-0-0.5	19	TO63-R2-SB03-0-0.5	29		39	
10	TO63-R1-SB03-4-5	20	TO63-R2-SB02-0-0.5	30		40	

Notes: _____

Page: 1 of 1
Reviewer: MG
2nd reviewer: MY

[illegible]

ELEMENTS.4

LDC #: 13575A4

SDG #: K2502497

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Sample Concentration units, unless otherwise noted: mg/Kg

VALIDATION FINDINGS WORKSHEET

PB/ICB/CCB QUALIFIED SAMPLES

Soil preparation factor applied: 100x; ICPMS 5x dil

Associaec Samples: all

Page: 1 of 1
 Reviewer: MG
 2nd Reviewer: MM

Sample Identification																			
Analyte	Maximum PB* (mg/Kg)	Maximum PB* (ug/L)	Maximum ICB/CCB* (ug/L)	Blank Action Limit	1	2	3	4	5	6	7	10	11	12					
Al																			
Sb																			
As																			
Ba																			
Be																			
Cd																			
Ca																			
Cr																			
Cu																			
Fe																			
Pb																			
Mg																			
Mn																			
Hg	0.02		0.16	0.10	0.04	0.08	0.09	0.09	0.06	0.09	0.06	0.05	0.05	0.06					
Ni			0.14	0.35															
K																			
Se																			
Ag			0.009	0.022															
Na																			
Tl			0.005	0.012															
V																			
Zn																			
B																			
Mo																			
Sr																			

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note: a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 13575A4
SDG #: K2502497

VALIDATION FINDINGS WORKSHEET

PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Soil preparation factor applied: 100x; ICP-MS 5x dil

Sample Concentration units, unless otherwise noted: mg/kg

Associated Samples: all

Page: 2 of 2
Reviewer: MG
2nd Reviewer: MH

Sample Identification																									
Analyte	Maximum PB* (mg/Kg)	Maximum PB* (ug/L)	Maximum ICB/CCB* (ug/L)	Blank Action Limit	13	14	15	16	17	18	19	20													
Al													Al												
Sb													Sb												
As													As												
Ba													Ba												
Be													Be												
Cd													Cd												
Ca													Ca												
Cr													Cr												
Cu													Cu												
Fe													Fe												
Pb													Pb												
Mg													Mg												
Mn													Mn												
Hg	0.02		0.16	0.10	0.04	0.07	0.04	0.07	0.06	0.05	0.07	0.10	Hg												
Ni			0.14	0.35									Ni												
K													K												
Se													Se												
Ag			0.009	0.022									Ag												
Na													Na												
Tl			0.005	0.012									Tl												
V													V												
Zn													Zn												
B													B												
Mo													Mo												
Sr													Sr												

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note: a - the listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET

ICP Interference Check Sample

Page: 1 of 1
Reviewer: MG
2nd Reviewer: pm

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were ICP interference check samples performed as required?

Y (N) N/A Were the AB solution percent recoveries (%R) within the control limits of 80-120% ?

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

[illegible]

Comments:

VALIDATION FINDINGS WORKSHEET

Matrix Spike Analysis

Page: 1 of 1
Reviewer: MG
2nd Reviewer: MY

2nd Reviewer: my

ke concentration by a factor

[illegible]

100

LDC #: 13575A4
SDG #: K2502497

Page: 1 of 1
Reviewer: MG
2nd Reviewer: juy

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Was a duplicate sample analyzed for each matrix in this SDG?	Y	N	N/A
--------------------------------------------------------------	---	---	-----

Were all duplicate sample relative percent differences (RPD) $\leq 20\%$ for water samples and $\leq 35\%$ for soil samples? If no, see qualifications below. A control limit of $\pm R.L. (+2X R.L. \text{ for soil})$ was used for sample values that were $< 5X$ the R.L., including the case when only one of the duplicate sample values was $< 5X$ R.L.. If field blanks were used for laboratory duplicates, note in the Overall Assessment.

LEVEL IV ONLY:

Y N N/A

[illegible]

Comments:

LDC#: 13575A4
SDG#: K2502497

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: MG
2nd Reviewer: 47

METHOD: Metals (EPA Method 6010B/7000)

☒ Y ☐ N NA
☒ Y ☐ N NA

Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

Compound	Concentration (mg/kg)		RPD	
	3	4		
Antimony	0.13	0.14	7	
Arsenic	3.70	3.04	20	
Barium	62.8	123	65	
Beryllium	0.82	1.04	24	
Chromium	114	78.3	37	
Cobalt	15.5	27.0	54	
Copper	42.3	27.2	43	
Lead	19.2	12.3	44	
Mercury	0.09	0.09	0	
Nickel	57.1	41.6	31	
Selenium	0.4	0.4	0	
Silver	0.380	0.681	57	
Thallium	0.166	0.120	32	
Vanadium	94.7	68.1	33	
Zinc	101	73.8	31	

V:\FIELD DUPLICATES\FD_inorganic\13575A4.wpd

LDC#: 13575A4
SDG#: K2502497

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: MG
2nd Reviewer: MM

METHOD: Metals (EPA Method 6010B/7000)

Y N NA
Y N NA

Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

Compound	Concentration (mg/kg)		RPD	
	8	TO63-R1-SB01-0-0.5DUP		
Antimony	0.23	0.36	44	
Arsenic	2.58	4.03	44	
Barium	198	141	34	
Beryllium	0.76	0.73	4	
Cadmium	0.1U	0.6	200	
Chromium	17.4	27.3	44	
Cobalt	7.9	9.1	14	
Copper	7.7	14.1	59	
Lead	20.9	44.2	72	
Mercury	0.11	0.356	106	
Nickel	24.2	27.6	13	
Selenium	0.2	0.2	0	
Silver	0.193	1.050	138	
Thallium	0.088	0.091	3	
Vanadium	23.1	29.6	25	
Zinc	38.1	78.4	69	

V:\FIELD DUPLICATES\FD_inorganic\13575A4b.wpd

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Ballfields Parcels at DoDHF Novato, CA
Collection Date: April 4 through April 6, 2005
LDC Report Date: June 14, 2005
Matrix: Soil
Parameters: Metals
Validation Level: NFESC Level III
Laboratory: Columbia Analytical Services, Inc.
Sample Delivery Group (SDG): K2502499

Sample Identification

TO63-191-SB03-0-0.5	TO63-193-SB03-0-0.5DUP
TO63-191-SB01-0-0.5	TO63-R1-SB02-0-0.5MS
TO63-191-SB02-0-0.5	TO63-R1-SB02-0-0.5DUP
TO63-193-SB01-0-0.5	
TO63-193-SB03-0-0.5	
TO63-193-SB03-0-0.5Dup	
TO63-193-SB02-0-0.5	
TO63-SPN-SB02-0-0.5	
TO63-SPN-SB02-4-5	
TO63-SPN-SB03-0-0.5	
TO63-R1-SB02-0-0.5	
TO63-R1-SB01-0-0.5Dup	
TO63-PDD-SB01-0-0.5	
TO63-PDD-SB02-0-0.5	
TO63-PDD-SB03-0-0.5	
TO63-PDD-SB04-0-0.5	
TO63-PDD-SB05-0-0.5	
TO63-191-SB03-0-0.5MS	
TO63-191-SB03-0-0.5DUP	
TO63-193-SB03-0-0.5MS	

Introduction

This data review covers 23 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010, 7000 and EPA Method 200.8 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

The review follows the Final Sampling and Analysis Plan for Preliminary Assessment/Site Investigation of Ballfields Parcels at DoDHF Novato, California, (March 23, 2005) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UU Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Nickel	0.07 mg/Kg	All samples in SDG K2502499
ICB/CCB	Cadmium Nickel Silver Thallium	0.6 ug/L 0.14 ug/L 0.009 ug/L 0.005 ug/L	All samples in SDG K2502499
ICB/CCB	Mercury	0.138 ug/L	TO63-191-SB03-0-0.5 TO63-191-SB01-0-0.5 TO63-191-SB02-0-0.5 TO63-193-SB01-0-0.5 TO63-193-SB03-0-0.5 TO63-193-SB03-0-0.5Dup TO63-193-SB02-0-0.5 TO63-SPN-SB02-0-0.5 TO63-SPN-SB02-4-5 TO63-SPN-SB03-0-0.5 TO63-R1-SB02-0-0.5 TO63-R1-SB01-0-0.5Dup TO63-PDD-SB01-0-0.5 TO63-PDD-SB02-0-0.5 TO63-PDD-SB03-0-0.5
ICB/CCB	Mercury	0.164 ug/L	TO63-PDD-SB04-0-0.5 TO63-PDD-SB05-0-0.5

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
TO63-191-SB03-0-0.5	Cadmium	0.6 mg/Kg	0.6U mg/Kg
TO63-191-SB02-0-0.5	Cadmium	0.4 mg/Kg	0.4U mg/Kg
TO63-193-SB01-0-0.5	Cadmium	0.2 mg/Kg	0.2U mg/Kg
TO63-193-SB03-0-0.5Dup	Cadmium	0.6 mg/Kg	0.6U mg/Kg
TO63-193-SB02-0-0.5	Cadmium Mercury	0.2 mg/Kg 0.061 mg/Kg	0.2U mg/Kg 0.061U mg/Kg
TO63-SPN-SB02-0-0.5	Cadmium	0.2 mg/Kg	0.2U mg/Kg
TO63-SPN-SB02-4-5	Cadmium Mercury	0.2 mg/Kg 0.041 mg/Kg	0.2U mg/Kg 0.044U mg/Kg
TO63-SPN-SB03-0-0.5	Cadmium	0.3 mg/Kg	0.3U mg/Kg
TO63-R1-SB02-0-0.5	Cadmium	0.5 mg/Kg	0.5U mg/Kg
TO63-R1-SB01-0-0.5Dup	Cadmium	0.6 mg/Kg	0.6U mg/Kg
TO63-PDD-SB01-0-0.5	Cadmium	0.3 mg/Kg	0.3U mg/Kg
TO63-PDD-SB02-0-0.5	Cadmium	0.2 mg/Kg	0.2U mg/Kg
TO63-PDD-SB03-0-0.5	Cadmium	0.3 mg/Kg	0.3U mg/Kg
TO63-PDD-SB04-0-0.5	Cadmium	0.4 mg/Kg	0.4U mg/Kg
TO63-PDD-SB05-0-0.5	Cadmium Mercury	0.2 mg/Kg 0.057 mg/Kg	0.2U mg/Kg 0.057U mg/Kg

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
TO63-191-SB02-0-0.5 TO63-193-SB01-0-0.5 TO63-SPN-SB02-0-0.5 TO63-PDD-SB02-0-0.5 TO63-PDD-SB03-0-0.5 TO63-PDD-SB04-0-0.5	Molybdenum	This metal was not spiked in ICSAB.	This metal is potentially affected by common interferences and should be spiked in ICSAB.	J (all detects) UJ (all non-detects)	P

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	%R (Limits)	Flag	A or P
TO63-191-SB03-0-0.5MS (All samples in SDG K2502499)	Antimony	34 (70-130)	J (all detects) UJ (all non-detects)	A
TO63-R1-SB02-0-0.5MS (All samples in SDG K2502499)	Antimony	50 (70-130)	J (all detects) UJ (all non-detects)	A

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits with the following exceptions:

DUP ID (Associated Samples)	Analyte	RPD (Limits)	Difference (Limits)	Flag	A or P
TO63-191-SB03-0-0.5DUP (All samples in SDG K2502499)	Lead	41 (≤ 30)	-	J (all detects) UJ (all non-detects)	A
TO63-R1-SB02-0-0.5DUP (All samples in SDG K2502499)	Silver	35 (≤ 30)	-	J (all detects) UJ (all non-detects)	A

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Internal Standards (ICP-MS)

ICP-MS was not reviewed for this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag	A or P
TO63-193-SB03-0-0.5L	Vanadium	16 (≤ 10)	All samples in SDG K2502499	J (all detects)	A

XI. Sample Result Verification

Raw data were not reviewed for this SDG.

XII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIII. Field Duplicates

Samples TO63-193-SB03-0-0.5 and TO63-193-SB03-0-0.5Dup and samples TO63-R1-SB01-0-0.5Dup and TO63-R1-SB01-0-0.5 (from SDG K2502497) were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/Kg)		RPD
	TO63-193-SB03-0-0.5	TO63-193-SB03-0-0.5Dup	
Antimony	0.31	0.29	7
Arsenic	5.24	5.38	3
Barium	213	133	46
Beryllium	0.58	0.53	9
Cadmium	0.7	0.6	15
Chromium	54.3	61.7	13

Analyte	Concentration (mg/Kg)		RPD
	TO63-193-SB03-0-0.5	TO63-193-SB03-0-0.5Dup	
Cobalt	12.9	12.0	7
Copper	30.5	29.2	4
Lead	34.0	40.9	18
Mercury	0.482	0.376	25
Nickel	47.2	47.2	0
Selenium	0.3	0.4	29
Silver	4.810	3.600	29
Thallium	0.113	0.107	5
Vanadium	43.7	50.7	15
Zinc	103	91.4	12

XIV. Field Blanks

No field blanks were identified in this SDG.

Ballfields Parcels at DoDHF Novato, CA
Metals - Data Qualification Summary - SDG K2502499

SDG	Sample	Analyte	Flag	A or P	Reason
K2502499	TO63-191-SB02-0-0.5 TO63-193-SB01-0-0.5 TO63-SPN-SB02-0-0.5 TO63-PDD-SB02-0-0.5 TO63-PDD-SB03-0-0.5 TO63-PDD-SB04-0-0.5	Molybdenum	J (all detects) UJ (all non-detects)	P	ICP interference check
K2502499	TO63-191-SB03-0-0.5 TO63-191-SB01-0-0.5 TO63-191-SB02-0-0.5 TO63-193-SB01-0-0.5 TO63-193-SB03-0-0.5 TO63-193-SB03-0-0.5Dup TO63-193-SB02-0-0.5 TO63-SPN-SB02-0-0.5 TO63-SPN-SB02-4-5 TO63-SPN-SB03-0-0.5 TO63-R1-SB02-0-0.5 TO63-R1-SB01-0-0.5Dup TO63-PDD-SB01-0-0.5 TO63-PDD-SB02-0-0.5 TO63-PDD-SB03-0-0.5 TO63-PDD-SB04-0-0.5 TO63-PDD-SB05-0-0.5	Antimony	J (all detects) UJ (all non-detects)	A	Matrix spike analysis (%R)
K2502499	TO63-191-SB03-0-0.5 TO63-191-SB01-0-0.5 TO63-191-SB02-0-0.5 TO63-193-SB01-0-0.5 TO63-193-SB03-0-0.5 TO63-193-SB03-0-0.5Dup TO63-193-SB02-0-0.5 TO63-SPN-SB02-0-0.5 TO63-SPN-SB02-4-5 TO63-SPN-SB03-0-0.5 TO63-R1-SB02-0-0.5 TO63-R1-SB01-0-0.5Dup TO63-PDD-SB01-0-0.5 TO63-PDD-SB02-0-0.5 TO63-PDD-SB03-0-0.5 TO63-PDD-SB04-0-0.5 TO63-PDD-SB05-0-0.5	Lead Silver	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Duplicate analysis (RPD)

SDG	Sample	Analyte	Flag	A or P	Reason
K2502499	TO63-191-SB03-0-0.5 TO63-191-SB01-0-0.5 TO63-191-SB02-0-0.5 TO63-193-SB01-0-0.5 TO63-193-SB03-0-0.5 TO63-193-SB03-0-0.5Dup TO63-193-SB02-0-0.5 TO63-SPN-SB02-0-0.5 TO63-SPN-SB02-4-5 TO63-SPN-SB03-0-0.5 TO63-R1-SB02-0-0.5 TO63-R1-SB01-0-0.5Dup TO63-PDD-SB01-0-0.5 TO63-PDD-SB02-0-0.5 TO63-PDD-SB03-0-0.5 TO63-PDD-SB04-0-0.5 TO63-PDD-SB05-0-0.5	Vanadium	J (all detects)	A	ICP serial dilution (%D)

Ballfields Parcels at DoDHF Novato, CA
Metals - Laboratory Blank Data Qualification Summary - SDG K2502499

SDG	Sample	Analyte	Modified Final Concentration	A or P
K2502499	TO63-191-SB03-0-0.5	Cadmium	0.6U mg/Kg	A
K2502499	TO63-191-SB02-0-0.5	Cadmium	0.4U mg/Kg	A
K2502499	TO63-193-SB01-0-0.5	Cadmium	0.2U mg/Kg	A
K2502499	TO63-193-SB03-0-0.5Dup	Cadmium	0.6U mg/Kg	A
K2502499	TO63-193-SB02-0-0.5	Cadmium Mercury	0.2U mg/Kg 0.061U mg/Kg	A
K2502499	TO63-SPN-SB02-0-0.5	Cadmium	0.2U mg/Kg	A
K2502499	TO63-SPN-SB02-4-5	Cadmium Mercury	0.2U mg/Kg 0.044U mg/Kg	A
K2502499	TO63-SPN-SB03-0-0.5	Cadmium	0.3U mg/Kg	A
K2502499	TO63-R1-SB02-0-0.5	Cadmium	0.5U mg/Kg	A
K2502499	TO63-R1-SB01-0-0.5Dup	Cadmium	0.6U mg/Kg	A
K2502499	TO63-PDD-SB01-0-0.5	Cadmium	0.3U mg/Kg	A

SDG	Sample	Analyte	Modified Final Concentration	A or P
K2502499	TO63-PDD-SB02-0-0.5	Cadmium	0.2U mg/Kg	Λ
K2502499	TO63-PDD-SB03-0-0.5	Cadmium	0.3U mg/Kg	A
K2502499	TO63-PDD-SB04-0-0.5	Cadmium	0.4U mg/Kg	A
K2502499	TO63-PDD-SB05-0-0.5	Cadmium Mercury	0.2U mg/Kg 0.057U mg/Kg	A

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-191-SB03-0-0.5

Lab Code: K2502499-001

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.56		N
Arsenic	200.8	0.59	0.06	5	4/14/05	04/22/05	4.97		
Barium	6010B	1.2	0.2	2	4/14/05	04/18/05	94.0		
Beryllium	6010B	1.18	0.04	2	4/14/05	04/18/05	0.50	B	
Cadmium	6010B	1.2	0.1	2	4/14/05	04/18/05	0.6	B	
Chromium	6010B	2.37	0.59	2	4/14/05	04/18/05	36.1		
Cobalt	6010B	2.4	0.4	2	4/14/05	04/18/05	10.2		
Copper	6010B	2.4	2.4	2	4/14/05	04/18/05	17.1		
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	16.0		*
Mercury	7471A	0.019	0.009	1	4/11/05	04/13/05	0.138		
Molybdenum	6010B	2.4	2.4	2	4/14/05	04/18/05	2.4	U	
Nickel	200.8	0.24	0.05	5	4/14/05	04/22/05	31.6		
Selenium	200.8	1.2	0.1	5	4/14/05	04/22/05	0.2	B	
Silver	200.8	0.024	0.004	5	4/14/05	04/15/05	0.067		*
Thallium	200.8	0.024	0.002	5	4/14/05	04/22/05	0.100		
Vanadium	6010B	2.4	0.7	2	4/14/05	04/18/05	34.7		
Zinc	6010B	2.4	0.4	2	4/14/05	04/18/05	50.0		

% Solids: 84.5

Comments:

6/17/05

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-191-SB01-0-0.5

Lab Code: K2502499-002

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.22		N
Arsenic	200.8	0.57	0.06	5	4/14/05	04/22/05	4.04		
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	128		
Beryllium	6010B	1.14	0.03	2	4/14/05	04/18/05	0.59	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.7	B	
Chromium	6010B	2.29	0.57	2	4/14/05	04/18/05	33.5		
Cobalt	6010B	2.3	0.3	2	4/14/05	04/18/05	8.9		
Copper	6010B	2.3	2.3	2	4/14/05	04/18/05	15.4		
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	18.8		*
Mercury	7471A	0.019	0.009	1	4/11/05	04/13/05	0.174		
Molybdenum	6010B	2.3	2.3	2	4/14/05	04/18/05	2.3	U	
Nickel	200.8	0.23	0.05	5	4/14/05	04/22/05	40.5		
Selenium	200.8	1.1	0.1	5	4/14/05	04/22/05	0.3	B	
Silver	200.8	0.023	0.003	5	4/14/05	04/15/05	0.045		*
Thallium	200.8	0.023	0.002	5	4/14/05	04/22/05	0.098		
Vanadium	6010B	2.3	0.7	2	4/14/05	04/18/05	33.1		
Zinc	6010B	2.3	0.3	2	4/14/05	04/18/05	53.9		

% Solids: 85.8

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-191-SB02-0-0.5

Lab Code: K2502499-003

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.19		N
Arsenic	200.8	0.56	0.06	5	4/14/05	04/22/05	6.61		
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	114		
Beryllium	6010B	1.11	0.03	2	4/14/05	04/18/05	0.62	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.4	B	
Chromium	6010B	2.22	0.56	2	4/14/05	04/18/05	82.5		
Cobalt	6010B	2.2	0.3	2	4/14/05	04/18/05	11.6		
Copper	6010B	2.2	2.2	2	4/14/05	04/18/05	34.4		
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	36.4		*
Mercury	7471A	0.017	0.008	1	4/11/05	04/13/05	0.117		
Molybdenum	6010B	2.2	2.2	2	4/14/05	04/18/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	04/22/05	48.7		
Selenium	200.8	1.1	0.1	5	4/14/05	04/22/05	0.4	B	
Silver	200.8	0.022	0.003	5	4/14/05	04/15/05	0.101		*
Thallium	200.8	0.022	0.002	5	4/14/05	04/22/05	0.147		
Vanadium	6010B	2.2	0.7	2	4/14/05	04/18/05	67.2		
Zinc	6010B	2.2	0.3	2	4/14/05	04/18/05	102		

% Solids: 74.3

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-193-SB01-0-0.5

Lab Code: K2502499-004

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.16		N
Arsenic	200.8	0.57	0.06	5	4/14/05	04/22/05	8.08		
Barium	6010B	1.2	0.2	2	4/14/05	04/18/05	49.7		
Beryllium	6010B	1.17	0.04	2	4/14/05	04/18/05	0.65	B	
Cadmium	6010B	1.2	0.1	2	4/14/05	04/18/05	0.2	B	
Chromium	6010B	2.33	0.58	2	4/14/05	04/18/05	89.3		
Cobalt	6010B	2.3	0.4	2	4/14/05	04/18/05	13.0		
Copper	6010B	2.3	2.3	2	4/14/05	04/18/05	27.2		
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	16.0		*
Mercury	7471A	0.020	0.010	1	4/11/05	04/13/05	0.088		
Molybdenum	6010B	2.3	2.3	2	4/14/05	04/18/05	2.3	U	
Nickel	200.8	0.23	0.05	5	4/14/05	04/22/05	62.5		
Selenium	200.8	1.2	0.1	5	4/14/05	04/22/05	0.6	B	
Silver	200.8	0.023	0.004	5	4/14/05	04/15/05	0.097		*
Thallium	200.8	0.023	0.002	5	4/14/05	04/22/05	0.166		
Vanadium	6010B	2.3	0.7	2	4/14/05	04/18/05	70.9		
Zinc	6010B	2.3	0.4	2	4/14/05	04/18/05	86.2		

% Solids: 70.9

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-193-SB03-0-0.5

Lab Code: K2502499-005

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	04/15/05	0.31		N
Arsenic	200.8	0.54	0.05	5	4/14/05	04/22/05	5.24		
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	213		
Beryllium	6010B	1.07	0.03	2	4/14/05	04/18/05	0.58	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.7	B	
Chromium	6010B	2.15	0.54	2	4/14/05	04/18/05	54.3		
Cobalt	6010B	2.2	0.3	2	4/14/05	04/18/05	12.9		
Copper	6010B	2.2	2.2	2	4/14/05	04/18/05	30.5		
Lead	200.8	0.05	0.02	5	4/14/05	04/22/05	34.0		*
Mercury	7471A	0.020	0.010	1	4/11/05	04/13/05	0.482		
Molybdenum	6010B	2.2	2.2	2	4/14/05	04/18/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	04/22/05	47.2		
Selenium	200.8	1.1	0.1	5	4/14/05	04/22/05	0.3	B	
Silver	200.8	0.022	0.003	5	4/14/05	04/15/05	4.810		*
Thallium	200.8	0.022	0.002	5	4/14/05	04/22/05	0.113		
Vanadium	6010B	2.2	0.6	2	4/14/05	04/18/05	43.7		
Zinc	6010B	2.2	0.3	2	4/14/05	04/18/05	103		

% Solids: 76.4

Comments:

6/17/05

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-193-SB03-0-0.5 DUF

Lab Code: K2502499-006

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	04/15/05	0.29		N
Arsenic	200.8	0.48	0.05	5	4/14/05	04/22/05	5.38		
Barium	6010B	1.0	0.2	2	4/14/05	04/18/05	133		
Beryllium	6010B	0.97	0.03	2	4/14/05	04/18/05	0.53	B	
Cadmium	6010B	1.0	0.1	2	4/14/05	04/18/05	0.6	B	
Chromium	6010B	1.93	0.48	2	4/14/05	04/18/05	61.7		
Cobalt	6010B	1.9	0.3	2	4/14/05	04/18/05	12.0		
Copper	6010B	1.9	1.9	2	4/14/05	04/18/05	29.2		
Lead	200.8	0.05	0.02	5	4/14/05	04/22/05	40.9		*
Mercury	7471A	0.017	0.008	1	4/11/05	04/13/05	0.376		
Molybdenum	6010B	1.9	1.9	2	4/14/05	04/18/05	1.9	U	
Nickel	200.8	0.19	0.04	5	4/14/05	04/22/05	47.2		
Selenium	200.8	1.0	0.1	5	4/14/05	04/22/05	0.4	B	
Silver	200.8	0.019	0.003	5	4/14/05	04/15/05	3.600		*
Thallium	200.8	0.019	0.002	5	4/14/05	04/22/05	0.107		
Vanadium	6010B	1.9	0.6	2	4/14/05	04/18/05	50.7		
Zinc	6010B	1.9	0.3	2	4/14/05	04/18/05	91.4		

% Solids: 74.0

Comments:

6/17/05

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-193-SB02-0-0.5

Lab Code: K2502499-007

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.28		N
Arsenic	200.8	0.57	0.06	5	4/14/05	04/22/05	2.81		
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	166		
Beryllium	6010B	1.13	0.03	2	4/14/05	04/18/05	0.50	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.2	B	
Chromium	6010B	2.25	0.56	2	4/14/05	04/18/05	26.0		
Cobalt	6010B	2.3	0.3	2	4/14/05	04/18/05	9.0		
Copper	6010B	2.3	2.3	2	4/14/05	04/18/05	18.8		
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	13.3		*
Mercury	7471A	0.020	0.010	1	4/11/05	04/13/05	0.061		
Molybdenum	6010B	2.3	2.3	2	4/14/05	04/18/05	2.3	U	
Nickel	200.8	0.23	0.05	5	4/14/05	04/22/05	24.9		
Selenium	200.8	1.1	0.1	5	4/14/05	04/22/05	0.2	B	
Silver	200.8	0.023	0.003	5	4/14/05	04/15/05	0.092		*
Thallium	200.8	0.023	0.002	5	4/14/05	04/22/05	0.087		
Vanadium	6010B	2.3	0.7	2	4/14/05	04/18/05	31.5		
Zinc	6010B	2.3	0.3	2	4/14/05	04/18/05	110		

% Solids: 87.0

Comments:

6/17/05

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-SPN-SB02-0-0.5

Lab Code: K2502499-008

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	04/15/05	0.14		N
Arsenic	200.8	0.55	0.05	5	4/14/05	04/22/05	7.81		
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	54.2		
Beryllium	6010B	1.10	0.03	2	4/14/05	04/18/05	0.59	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.2	B	
Chromium	6010B	2.20	0.55	2	4/14/05	04/18/05	98.0		
Cobalt	6010B	2.2	0.3	2	4/14/05	04/18/05	13.2		
Copper	6010B	2.2	2.2	2	4/14/05	04/18/05	28.6		
Lead	200.8	0.05	0.02	5	4/14/05	04/22/05	11.5		*
Mercury	7471A	0.019	0.009	1	4/11/05	04/13/05	0.072		
Molybdenum	6010B	2.2	2.2	2	4/14/05	04/18/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	04/22/05	49.7		
Selenium	200.8	1.1	0.1	5	4/14/05	04/22/05	0.4	B	
Silver	200.8	0.022	0.003	5	4/14/05	04/15/05	0.060		*
Thallium	200.8	0.022	0.002	5	4/14/05	04/22/05	0.134		
Vanadium	6010B	2.2	0.7	2	4/14/05	04/18/05	83.4		
Zinc	6010B	2.2	0.3	2	4/14/05	04/18/05	89.0		

% Solids: 65.0

Comments:

6/17/05

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-SPN-SB02-4-5

Lab Code: K2502499-009

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.08		N
Arsenic	200.8	0.58	0.06	5	4/14/05	04/22/05	6.63		
Barium	6010B	1.2	0.2	2	4/14/05	04/18/05	31.1		
Beryllium	6010B	1.15	0.03	2	4/14/05	04/18/05	0.30	B	
Cadmium	6010B	1.2	0.1	2	4/14/05	04/18/05	0.2	B	
Chromium	6010B	2.30	0.58	2	4/14/05	04/18/05	45.7		
Cobalt	6010B	2.3	0.3	2	4/14/05	04/18/05	6.7		
Copper	6010B	2.3	2.3	2	4/14/05	04/18/05	14.6		
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	7.67		*
Mercury	7471A	0.018	0.009	1	4/11/05	04/13/05	0.044		
Molybdenum	6010B	2.3	2.3	2	4/14/05	04/18/05	2.3	U	
Nickel	200.8	0.23	0.05	5	4/14/05	04/22/05	23.6		
Selenium	200.8	1.2	0.1	5	4/14/05	04/22/05	0.2	B	
Silver	200.8	0.023	0.003	5	4/14/05	04/15/05	0.050		*
Thallium	200.8	0.023	0.002	5	4/14/05	04/22/05	0.082		
Vanadium	6010B	2.3	0.7	2	4/14/05	04/18/05	41.5		
Zinc	6010B	2.3	0.3	2	4/14/05	04/18/05	43.3		

% Solids: 71.3

Comments:

6/17/05

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-SPN-SB03-0-0.5

Lab Code: K2502499-010

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.21		N
Arsenic	200.8	0.56	0.06	5	4/14/05	04/22/05	5.65		
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	68.0		
Beryllium	6010B	1.13	0.03	2	4/14/05	04/18/05	0.58	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.3	B	
Chromium	6010B	2.27	0.57	2	4/14/05	04/18/05	73.0		
Cobalt	6010B	2.3	0.3	2	4/14/05	04/18/05	12.9		
Copper	6010B	2.3	2.3	2	4/14/05	04/18/05	26.6		
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	33.6		*
Mercury	7471A	0.020	0.010	1	4/11/05	04/13/05	0.094		
Molybdenum	6010B	2.3	2.3	2	4/14/05	04/18/05	2.3	U	
Nickel	200.8	0.23	0.05	5	4/14/05	04/22/05	42.3		
Selenium	200.8	1.1	0.1	5	4/14/05	04/22/05	0.4	B	
Silver	200.8	0.023	0.003	5	4/14/05	04/15/05	0.135		*
Thallium	200.8	0.023	0.002	5	4/14/05	04/22/05	0.133		
Vanadium	6010B	2.3	0.7	2	4/14/05	04/18/05	57.6		
Zinc	6010B	2.3	0.3	2	4/14/05	04/18/05	75.8		

% Solids: 73.5

Comments:

6/17/05

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R1-SB02-0-0.5

Lab Code: K2502499-011

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.35		N
Arsenic	200.8	0.58	0.06	5	4/14/05	04/22/05	3.77		
Barium	6010B	1.2	0.2	2	4/14/05	04/18/05	105		
Beryllium	6010B	1.17	0.04	2	4/14/05	04/18/05	0.48	B	
Cadmium	6010B	1.2	0.1	2	4/14/05	04/18/05	0.5	B	
Chromium	6010B	2.33	0.58	2	4/14/05	04/18/05	21.7		
Cobalt	6010B	2.3	0.4	2	4/14/05	04/18/05	6.5		
Copper	6010B	2.3	2.3	2	4/14/05	04/18/05	11.9		
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	42.5		*
Mercury	7471A	0.019	0.010	1	4/11/05	04/13/05	0.177		
Molybdenum	6010B	2.3	2.3	2	4/14/05	04/18/05	2.3	U	
Nickel	200.8	0.23	0.05	5	4/14/05	04/22/05	22.9		
Selenium	200.8	1.2	0.1	5	4/14/05	04/22/05	0.2	B	
Silver	200.8	0.023	0.004	5	4/14/05	04/15/05	1.100		*
Thallium	200.8	0.023	0.002	5	4/14/05	04/22/05	0.078		
Vanadium	6010B	2.3	0.7	2	4/14/05	04/18/05	20.5		
Zinc	6010B	2.3	0.4	2	4/14/05	04/18/05	57.1		

% Solids: 85.8

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R1-SB01-0-0.5 DUF

Lab Code: K2502499-012

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	04/15/05	0.36		N
Arsenic	200.8	0.52	0.05	5	4/14/05	04/22/05	4.03		
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	141		
Beryllium	6010B	1.05	0.03	2	4/14/05	04/18/05	0.73	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.6	B	
Chromium	6010B	2.11	0.53	2	4/14/05	04/18/05	27.3		
Cobalt	6010B	2.1	0.3	2	4/14/05	04/18/05	9.1		
Copper	6010B	2.1	2.1	2	4/14/05	04/18/05	14.1		
Lead	200.8	0.05	0.02	5	4/14/05	04/22/05	44.2		*
Mercury	7471A	0.020	0.010	1	4/11/05	04/13/05	0.356		
Molybdenum	6010B	2.1	2.1	2	4/14/05	04/18/05	2.1	U	
Nickel	200.8	0.21	0.04	5	4/14/05	04/22/05	27.6		
Selenium	200.8	1.0	0.1	5	4/14/05	04/22/05	0.2	B	
Silver	200.8	0.021	0.003	5	4/14/05	04/15/05	1.050		*
Thallium	200.8	0.021	0.002	5	4/14/05	04/22/05	0.091		
Vanadium	6010B	2.1	0.6	2	4/14/05	04/18/05	29.6		
Zinc	6010B	2.1	0.3	2	4/14/05	04/18/05	78.4		

% Solids: 79.1

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-PDD-SB01-0-0.5

Lab Code: K2502499-013

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	04/15/05	0.25		N
Arsenic	200.8	0.54	0.05	5	4/14/05	04/22/05	5.19		
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	67.9		
Beryllium	6010B	1.10	0.03	2	4/14/05	04/18/05	0.56	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.3	B	
Chromium	6010B	2.19	0.55	2	4/14/05	04/18/05	49.9		
Cobalt	6010B	2.2	0.3	2	4/14/05	04/18/05	10.6		
Copper	6010B	2.2	2.2	2	4/14/05	04/18/05	20.6		
Lead	200.8	0.05	0.02	5	4/14/05	04/22/05	24.9		*
Mercury	7471A	0.016	0.008	1	4/11/05	04/13/05	0.124		
Molybdenum	6010B	2.2	2.2	2	4/14/05	04/18/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	04/22/05	40.3		
Selenium	200.8	1.1	0.1	5	4/14/05	04/22/05	0.3	B	
Silver	200.8	0.022	0.003	5	4/14/05	04/15/05	0.094		*
Thallium	200.8	0.022	0.002	5	4/14/05	04/22/05	0.119		
Vanadium	6010B	2.2	0.7	2	4/14/05	04/18/05	44.1		
Zinc	6010B	2.2	0.3	2	4/14/05	04/18/05	65.9		

% Solids: 76.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-PDD-SB02-0-0.5

Lab Code: K2502499-014

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.20		N
Arsenic	200.8	0.57	0.06	5	4/14/05	04/22/05	5.95		
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	65.0		
Beryllium	6010B	1.13	0.03	2	4/14/05	04/18/05	0.70	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.2	B	
Chromium	6010B	2.26	0.57	2	4/14/05	04/18/05	95.2		
Cobalt	6010B	2.3	0.3	2	4/14/05	04/18/05	13.5		
Copper	6010B	2.3	2.3	2	4/14/05	04/18/05	28.6		
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	15.6		*
Mercury	7471A	0.016	0.008	1	4/11/05	04/13/05	0.095		
Molybdenum	6010B	2.3	2.3	2	4/14/05	04/18/05	2.3	U	
Nickel	200.8	0.23	0.05	5	4/14/05	04/22/05	50.3		
Selenium	200.8	1.2	0.1	5	4/14/05	04/22/05	0.5	B	
Silver	200.8	0.023	0.003	5	4/14/05	04/15/05	0.118		*
Thallium	200.8	0.023	0.002	5	4/14/05	04/22/05	0.134		
Vanadium	6010B	2.3	0.7	2	4/14/05	04/18/05	73.7		
Zinc	6010B	2.3	0.3	2	4/14/05	04/18/05	93.7		

% Solids: 62.3

Comments:

6/17/05

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-PDD-SB03-0-0.5

Lab Code: K2502499-015

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.23		N
Arsenic	200.8	0.59	0.06	5	4/14/05	04/22/05	5.83		
Barium	6010B	1.2	0.2	2	4/14/05	04/18/05	84.7		
Beryllium	6010B	1.17	0.04	2	4/14/05	04/18/05	0.56	B	
Cadmium	6010B	1.2	0.1	2	4/14/05	04/18/05	0.3	B	
Chromium	6010B	2.33	0.58	2	4/14/05	04/18/05	81.5		
Cobalt	6010B	2.3	0.4	2	4/14/05	04/18/05	11.8		
Copper	6010B	2.3	2.3	2	4/14/05	04/18/05	33.1		
Lead	200.8	0.06	0.02	5	4/14/05	04/22/05	28.4		*
Mercury	7471A	0.017	0.009	1	4/11/05	04/13/05	0.081		
Molybdenum	6010B	2.3	2.3	2	4/14/05	04/18/05	2.3	U	
Nickel	200.8	0.24	0.05	5	4/14/05	04/22/05	37.1		
Selenium	200.8	1.2	0.1	5	4/14/05	04/22/05	0.4	B	
Silver	200.8	0.023	0.004	5	4/14/05	04/15/05	0.111		*
Thallium	200.8	0.024	0.002	5	4/14/05	04/22/05	0.100		
Vanadium	6010B	2.3	0.7	2	4/14/05	04/18/05	67.3		
Zinc	6010B	2.3	0.4	2	4/14/05	04/18/05	88.8		

% Solids: 70.3

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-PDD-SB04-0-0.5

Lab Code: K2502499-016

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	04/15/05	0.23		N
Arsenic	200.8	0.51	0.05	5	4/14/05	04/22/05	7.42		
Barium	6010B	1.0	0.2	2	4/14/05	04/18/05	74.3		
Beryllium	6010B	1.02	0.03	2	4/14/05	04/18/05	0.90	B	
Cadmium	6010B	1.0	0.1	2	4/14/05	04/18/05	0.4	B	
Chromium	6010B	2.04	0.51	2	4/14/05	04/18/05	90.9		
Cobalt	6010B	2.0	0.3	2	4/14/05	04/18/05	16.3		
Copper	6010B	2.0	2.0	2	4/14/05	04/18/05	35.9		
Lead	200.8	0.05	0.02	5	4/14/05	04/22/05	43.1		*
Mercury	7471A	0.019	0.009	1	4/11/05	04/13/05	0.108		
Molybdenum	6010B	2.0	2.0	2	4/14/05	04/18/05	2.0	U	
Nickel	200.8	0.20	0.04	5	4/14/05	04/22/05	65.0		
Selenium	200.8	1.0	0.1	5	4/14/05	04/22/05	0.5	B	
Silver	200.8	0.020	0.003	5	4/14/05	04/15/05	0.140		*
Thallium	200.8	0.020	0.002	5	4/14/05	04/22/05	0.180		
Vanadium	6010B	2.0	0.6	2	4/14/05	04/18/05	73.3		
Zinc	6010B	2.0	0.3	2	4/14/05	04/18/05	108		

% Solids: 69.5

Comments:

6/17/05

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502499

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-PDD-SB05-0-0.5

Lab Code: K2502499-017

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	04/15/05	0.26		N
Arsenic	200.8	0.55	0.05	5	4/14/05	04/22/05	6.94		
Barium	6010B	1.1	0.2	2	4/14/05	04/18/05	54.5		
Beryllium	6010B	1.11	0.03	2	4/14/05	04/18/05	0.79	B	
Cadmium	6010B	1.1	0.1	2	4/14/05	04/18/05	0.2	B	
Chromium	6010B	2.22	0.56	2	4/14/05	04/18/05	98.8		
Cobalt	6010B	2.2	0.3	2	4/14/05	04/18/05	19.5		
Copper	6010B	2.2	2.2	2	4/14/05	04/18/05	32.3		
Lead	200.8	0.05	0.02	5	4/14/05	04/22/05	19.7		*
Mercury	7471A	0.020	0.010	1	4/11/05	04/13/05	0.057		
Molybdenum	6010B	2.2	2.2	2	4/14/05	04/18/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	04/22/05	67.0		
Selenium	200.8	1.1	0.1	5	4/14/05	04/22/05	0.5	B	
Silver	200.8	0.022	0.003	5	4/14/05	04/15/05	0.116		*
Thallium	200.8	0.022	0.002	5	4/14/05	04/22/05	0.185		
Vanadium	6010B	2.2	0.7	2	4/14/05	04/18/05	81.8		
Zinc	6010B	2.2	0.3	2	4/14/05	04/18/05	99.0		

% Solids: 64.4

Comments:

6/17/05

LDC #: 13575B4

VALIDATION COMPLETENESS WORKSHEET

SDG #: K2502499

Level III

Laboratory: Columbia Analytical Services

Date: 6-7-05

Page: 1 of 1

Reviewer: MG

2nd Reviewer: Jm

METHOD: Metals (EPA SW 846 Method 6010B/7000)/200.8

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-4-05 through 4-6-05
II.	Calibration	A	
III.	Blanks	SW	
IV.	ICP Interference Check Sample (ICS) Analysis	SW	
V.	Matrix Spike Analysis	SW	MS
VI.	Duplicate Sample Analysis	SW	DUP
VII.	Laboratory Control Samples (LCS)	A	LCS
VIII.	Internal Standard (ICP-MS)	N	Not reviewed
IX.	Furnace Atomic Absorption QC	N	Not utilized
X.	ICP Serial Dilution	SW	
XI.	Sample Result Verification	N	
XII.	Overall Assessment of Data	A	
XIII.	Field Duplicates	SW	D=5+6, D=12 + TO63-R1-SB01-0-0.5 (SDG: K250249)
XIV.	Field Blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
all soil

1	TO63-191-SB03-0-0.5	11	TO63-R1-SB02-0-0.5	21	TO63-193-SB03-0-0.5DUP	31	
2	TO63-191-SB01-0-0.5	12	TO63-R1-SB01-0-0.5Dup	22	TO63-R1-SB02-0-0.5MS	32	
3	TO63-191-SB02-0-0.5	13	TO63-PDD-SB01-0-0.5	23	TO63-R1-SB02-0-0.5DUP	33	
4	TO63-193-SB01-0-0.5	14	TO63-PDD-SB02-0-0.5	24	PBS	34	
5	TO63-193-SB03-0-0.5	15	TO63-PDD-SB03-0-0.5	25		35	
6	TO63-193-SB03-0-0.5Dup	16	TO63-PDD-SB04-0-0.5	26		36	
7	TO63-193-SB02-0-0.5	17	TO63-PDD-SB05-0-0.5	27		37	
8	TO63-SPN-SB02-0-0.5	18	TO63-191-SB03-0-0.5MS	28		38	
9	TO63-SPN-SB02-4-5	19	TO63-191-SB03-0-0.5DUP	29		39	
10	TO63-SPN-SB03-0-0.5	20	TO63-193-SB03-0-0.5MS	30		40	

Notes: _____

Page: 1 of 1
Reviewer: MG
2nd reviewer: MM

[illegible]

LEMENTS.4

LDC #: 1357584
SDG #: 42502499

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Page: 1 of 2
Reviewer: MG
2nd Reviewer: JH

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Soil preparation factor applied: 100x; Cd 2x dil; ICP-MS 5x dil

Sample Concentration units, unless otherwise noted: mg/kg

Associated Samples: all except Hg for # 1-15 only

Sample Identification																
Analyte	Maximum PB* (mg/Kg)	Maximum PB* (ug/L)	Maximum ICB/CCB* (ug/L)	Blank Action Limit	1	3	4	6	7	8	9	10	11	12		
Al															Al	
Sb															Sb	
As															As	
Ba															Ba	
Be															Be	
Cd			0.6	0.6	0.6	0.4	0.2	0.6	0.2	0.2	0.2	0.3	0.5	0.6	Cd	
Ca															Ca	
Cr															Cr	
Co															Co	
Cu															Cu	
Fe															Fe	
Pb															Pb	
Mg															Mg	
Mn															Mn	
Hg			0.138	0.069					0.061		0.044				Hg	
Ni	0.07		0.14	0.35											Ni	
K															K	
Se															Se	
Ag			0.009	0.022											Ag	
Na															Na	
Tl			0.005	0.012											Tl	
V															V	
Zn															Zn	
B															B	
Mo															Mo	
Sr															Sr	

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note: a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 13575 B4
SDG #: K2502499

VALIDATION FINDINGS WORKSHEET

PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Soil preparation factor applied: 100x; Cd 2x dil; ICP-MS 5x dil

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: all except Hg for # 1-15 only

Page: 2 of 2
Reviewer: MG
2nd Reviewer: M

Sample Identification																			
Analyte	Maximum PB* (mg/kg)	Maximum PB* (ug/L)	Maximum ICB/CCB* (ug/L)	Blank Action Limit	13	14	15	16	17										
Al																			Al
Sb																			Sb
As																			As
Ba																			Ba
Be																			Be
Cd			0.6	0.6	0.3	0.2	0.3	0.4	0.2										Cd
Ca																			Ca
Cr																			Cr
Co																			Co
Cu																			Cu
Fe																			Fe
Pb																			Pb
Mg																			Mg
Mn																			Mn
Hg			0.138	0.069															Hg
Ni	0.07		0.14	0.35															Ni
K																			K
Se																			Se
Ag			0.009	0.022															Ag
Na																			Na
Tl			0.005	0.012															Tl
V																			V
Zn																			Zn
B																			B
Mo																			Mo
Sr																			Sr

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note: a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET
 PB/ICB/CCB QUALIFIED SAMPLES

LDC #: 1357584
 SDG #: K2502499

METHOD: Trace Metals (EPA SW 846 Method 6010/7000) Soil preparation factor applied: 100 x
 Sample Concentration units, unless otherwise noted: Associated Samples: 16, 17

Sample Identification																					
Analyte	Maximum Pb* (mg/kg)	Maximum PB* (ug/L)	Maximum ICB/CCB* (ug/L)	Blank Action Limit	17																
Al																					
Sb																					
As																					
Ba																					
Be																					
Cd																					
Ca																					
Cr																					
Cu																					
Fe																					
Pb																					
Mg																					
Mn																					
Hg			0.164	0.082	0.057																
Ni																					
K																					
Se																					
Ag																					
Na																					
Tl																					
V																					
Zn																					
B																					
Mo																					
Sr																					

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
 Note: a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET

ICP Interference Check Sample

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y	N	N/A	Were CP interference check samples performed as required?

Y N N/A

LEVEL IV ONLY:

Y	N	N/A	Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

[illegible]

Comments:

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

QYN	N/A	Was a duplicate sample analyzed for each matrix in this SDG?
-----	-----	--------------------------------------------------------------

Were all duplicate sample relative percent differences (RPD) $\leq 20\%$ for water samples and $\leq 35\%$ for soil samples? If no, see qualifications below. A control limit of $\pm R.L.$ ($\pm 2X$ R.L. for soil) was used for sample values that were $< 5X$ the R.L., including the case when only one of the duplicate sample values was $< 5X$ R.L.. If field blanks were used for laboratory duplicates, note in the Overall Assessment.

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

[illegible]

Comments:

Page: 1 of 1
Reviewer: MG
2nd Reviewer: MM

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A

Were ICP serial dilution percent differences (%D) $\leq 10\%$?

Is there evidence of negative interference? If yes, professional judgement will be used to qualify the data.

LEVEL IV ONLY:

Y	N	N/A	Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

[illegible]

Comments:

LDC#: 13575B4
SDG#: K2502499

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: MG
2nd Reviewer: my

METHOD: Metals (EPA Method 6010B/7000)

☒ Y ☐ N NA
☒ Y ☐ N NA

Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

Compound	Concentration (mg/kg)		RPD	
	5	6		
Antimony	0.31	0.29	7	
Arsenic	5.24	5.38	3	
Barium	213	133	46	
Beryllium	0.58	0.53	9	
Cadmium	0.7	0.6	15	
Chromium	54.3	61.7	13	
Cobalt	12.9	12.0	7	
Copper	30.5	29.2	4	
Lead	34.0	40.9	18	
Mercury	0.482	0.376	25	
Nickel	47.2	47.2	0	
Selenium	0.3	0.4	29	
Silver	4.810	3.600	29	
Thallium	0.113	0.107	5	
Vanadium	43.7	50.7	15	
Zinc	103	91.4	12	

V:\FIELD DUPLICATES\FD_inorganic\13575B4.wpd

LDC#: 13575B4
SDG#: K2502499

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: MG
2nd Reviewer: MH

METHOD: Metals (EPA Method 6010B/7000)

Y N NA
Y N NA

Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

Compound	Concentration (mg/kg)		RPD	
	TO63-R1-SB01-0-0.5	12		
Antimony	0.23	0.36	44	
Arsenic	2.58	4.03	44	
Barium	198	141	34	
Beryllium	0.76	0.73	4	
Cadmium	0.1U	0.6	200	
Chromium	17.4	27.3	44	
Cobalt	7.9	9.1	14	
Copper	7.7	14.1	59	
Lead	20.9	44.2	72	
Mercury	0.11	0.356	106	
Nickel	24.2	27.6	13	
Selenium	0.2	0.2	0	
Silver	0.193	1.050	138	
Thallium	0.088	0.091	3	
Vanadium	23.1	29.6	25	
Zinc	38.1	78.4	69	

V:\FIELD DUPLICATES\FD_inorganic\13575B4b.wpd

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Ballfields Parcels at DoDHF Novato, CA
Collection Date: April 5 through April 6, 2005
LDC Report Date: June 13, 2005
Matrix: Soil
Parameters: Metals
Validation Level: NFESC Level III & IV
Laboratory: Columbia Analytical Services, Inc.
Sample Delivery Group (SDG): K2502505

Sample Identification

TO63-R3-SB04-0-0.5	TO63-SPN-SB03-4-5MS
TO63-R3-SB04-2-3**	TO63-SPN-SB03-4-5DUP
TO63-R3-SB01-0-0.5	
TO63-R3-SB01-4-5	
TO63-R3-SB02-0-0.5	
TO63-R3-SB03-0-0.5**	
TO63-R4-SB03-0-0.5	
TO63-R4-SB03-3-4	
TO63-R4-SB02-0-0.5	
TO63-R4-SB01-0-0.5**	
TO63-SPN-SB03-4-5	
TO63-SPN-SB01-0-0.5	
TO63-SPN-SB01-0-0.5 Dup	
TO63-SPN-SB01-3-4**	
TO63-RSP-SB02-0-0.5	
TO63-RSP-SB02-5-6**	
TO63-RSP-SB03-0-0.5	
TO63-RSP-SB03-5-6	
TO63-R3-SB04-0-0.5MS	
TO63-R3-SB04-0-0.5DUP	

**Indicates sample underwent NFESC Level IV review

Introduction

This data review covers 22 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010, 7000 and EPA Method 200.8 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

The review follows the Final Sampling and Analysis Plan for Preliminary Assessment/Site Investigation of Ballfields Parcels at DoDHF Novato, California, (March 23, 2005) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level IV review. A NFESC Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UU Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Nickel	0.07 mg/Kg	All samples in SDG K2502505
ICB/CCB	Copper Mercury Nickel Silver Thallium Zinc	5.9 ug/L 0.188 ug/L 0.14 ug/L 0.009 ug/L 0.005 ug/L 4.0 ug/L	All samples in SDG K2502505

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
TO63-R3-SB04-0-0.5	Mercury	0.032 mg/Kg	0.032U mg/Kg
TO63-R3-SB04-2-3**	Mercury	0.062 mg/Kg	0.062U mg/Kg
TO63-R3-SB01-0-0.5	Mercury	0.047 mg/Kg	0.047U mg/Kg

Sample	Analyte	Reported Concentration	Modified Final Concentration
TO63-R3-SB01-4-5	Mercury	0.032 mg/Kg	0.032U mg/Kg
TO63-R3-SB02-0-0.5	Mercury	0.080 mg/Kg	0.080U mg/Kg
TO63-R4-SB03-0-0.5	Mercury	0.054 mg/Kg	0.054U mg/Kg
TO63-R4-SB03-3-4	Mercury	0.071 mg/Kg	0.071U mg/Kg
TO63-R4-SB02-0-0.5	Mercury	0.041 mg/Kg	0.041U mg/Kg
TO63-R4-SB01-0-0.5**	Mercury	0.047 mg/Kg	0.047U mg/Kg
TO63-SPN-SB03-4-5	Mercury	0.061 mg/Kg	0.061U mg/Kg
TO63-SPN-SB01-0-0.5	Mercury	0.059 mg/Kg	0.059U mg/Kg
TO63-SPN-SB01-0-0.5 Dup	Mercury	0.092 mg/Kg	0.092U mg/Kg
TO63-SPN-SB01-3-4**	Mercury	0.047 mg/Kg	0.047U mg/Kg
TO63-RSP-SB02-0-0.5	Mercury	0.072 mg/Kg	0.072U mg/Kg
TO63-RSP-SB02-5-6**	Mercury	0.036 mg/Kg	0.036U mg/Kg
TO63-RSP-SB03-0-0.5	Mercury	0.029 mg/Kg	0.029U mg/Kg
TO63-RSP-SB03-5-6	Mercury Silver	0.016 mg/Kg 0.011 mg/Kg	0.016U mg/Kg 0.011U mg/Kg

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
TO63-R3-SB04-2-3** TO63-R4-SB03-3-4 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 Dup TO63-RSP-SB02-0-0.5	Molybdenum	This metal was not spiked in ICSAB.	This metal is potentially affected by common interferences and should be spiked in ICSAB.	J (all detects) UJ (all non-detects)	P

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	%R (Limits)	Flag	A or P
TO63-R3-SB04-0-0.5MS (All samples in SDG K2502505)	Antimony	29 (70-130)	J (all detects) R (all non-detects)	A
TO63-SPN-SB03-4-5MS (All samples in SDG K2502505)	Antimony Zinc	26 (70-130) 29 (51-148)	J (all detects) R (all non-detects) J (all detects) R (all non-detects)	A

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits with the following exceptions:

DUP ID (Associated Samples)	Analyte	RPD (Limits)	Difference (Limits)	Flag	A or P
TO63-R3-SB04-0-0.5DUP (All samples in SDG K2502505)	Zinc	97 (≤ 30)	-	J (all detects) UJ (all non-detects)	A
TO63-SPN-SB03-4-5DUP (All samples in SDG K2502505)	Barium Zinc	33 (≤ 30) 57 (≤ 30)	- -	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Internal Standards (ICP-MS)

All internal standard percent recoveries (%R) were within QC limits for samples on which a NFESC Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag	A or P
TO63-R3-SB04-0-0.5L	Zinc	16 (≤10)	All samples in SDG K2502505	J (all detects)	A

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a NFESC Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIII. Field Duplicates

Samples TO63-SPN-SB01-0-0.5 and TO63-SPN-SB01-0-0.5 Dup were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/Kg)		RPD
	TO63-SPN-SB01-0-0.5	TO63-SPN-SB01-0-0.5 Dup	
Antimony	0.13	0.14	7
Arsenic	8.81	6.15	36
Barium	55.8	55.9	0
Beryllium	0.5	0.6	18
Chromium	94.8	83.6	13
Cobalt	10.0	9.8	2
Copper	34.2	30.5	11
Lead	24.0	19.2	22
Mercury	0.059	0.092	44

Analyte	Concentration (mg/Kg)		RPD
	TO63-SPN-SB01-0-0.5	TO63-SPN-SB01-0-0.5 Dup	
Nickel	49.2	46.9	5
Selenium	0.6	0.5	18
Silver	0.094	0.093	1
Thallium	0.150	0.141	6
Vanadium	73.1	76.0	4
Zinc	91.1	86.3	5

XIV. Field Blanks

No field blanks were identified in this SDG.

Ballfields Parcels at DoDHF Novato, CA
Metals - Data Qualification Summary - SDG K2502505

SDG	Sample	Analyte	Flag	A or P	Reason
K2502505	TO63-R3-SB04-2-3** TO63-R4-SB03-3-4 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 Dup TO63-RSP-SB02-0-0.5	Molybdenum	J (all detects) UJ (all non-detects)	P	ICP interference check
K2502505	TO63-R3-SB04-0-0.5 TO63-R3-SB04-2-3** TO63-R3-SB01-0-0.5 TO63-R3-SB01-4-5 TO63-R3-SB02-0-0.5 TO63-R3-SB03-0-0.5** TO63-R4-SB03-0-0.5 TO63-R4-SB03-3-4 TO63-R4-SB02-0-0.5 TO63-R4-SB01-0-0.5** TO63-SPN-SB03-4-5 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 Dup TO63-SPN-SB01-3-4** TO63-RSP-SB02-0-0.5 TO63-RSP-SB02-5-6** TO63-RSP-SB03-0-0.5 TO63-RSP-SB03-5-6	Antimony Zinc	J (all detects) R (all non-detects) J (all detects) R (all non-detects)	A	Matrix spike analysis (%R)
K2502505	TO63-R3-SB04-0-0.5 TO63-R3-SB04-2-3** TO63-R3-SB01-0-0.5 TO63-R3-SB01-4-5 TO63-R3-SB02-0-0.5 TO63-R3-SB03-0-0.5** TO63-R4-SB03-0-0.5 TO63-R4-SB03-3-4 TO63-R4-SB02-0-0.5 TO63-R4-SB01-0-0.5** TO63-SPN-SB03-4-5 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 Dup TO63-SPN-SB01-3-4** TO63-RSP-SB02-0-0.5 TO63-RSP-SB02-5-6** TO63-RSP-SB03-0-0.5 TO63-RSP-SB03-5-6	Zinc Barium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Duplicate analysis (RPD)

SDG	Sample	Analyte	Flag	A or P	Reason
K2502505	TO63-R3-SB04-0-0.5 TO63-R3-SB04-2-3** TO63-R3-SB01-0-0.5 TO63-R3-SB01-4-5 TO63-R3-SB02-0-0.5 TO63-R3-SB03-0-0.5** TO63-R4-SB03-0-0.5 TO63-R4-SB03-3-4 TO63-R4-SB02-0-0.5 TO63-R4-SB01-0-0.5** TO63-SPN-SB03-4-5 TO63-SPN-SB01-0-0.5 TO63-SPN-SB01-0-0.5 Dup TO63-SPN-SB01-3-4** TO63-RSP-SB02-0-0.5 TO63-RSP-SB02-5-6** TO63-RSP-SB03-0-0.5 TO63-RSP-SB03-5-6	Zinc	J (all detects)	A	ICP serial dilution (%D)

Ballfields Parcels at DoDHF Novato, CA
Metals - Laboratory Blank Data Qualification Summary - SDG K2502505

SDG	Sample	Analyte	Modified Final Concentration	A or P
K2502505	TO63-R3-SB04-0-0.5	Mercury	0.032U mg/Kg	A
K2502505	TO63-R3-SB04-2-3**	Mercury	0.062U mg/Kg	A
K2502505	TO63-R3-SB01-0-0.5	Mercury	0.047U mg/Kg	A
K2502505	TO63-R3-SB01-4-5	Mercury	0.032U mg/Kg	A
K2502505	TO63-R3-SB02-0-0.5	Mercury	0.080U mg/Kg	A
K2502505	TO63-R4-SB03-0-0.5	Mercury	0.054U mg/Kg	A
K2502505	TO63-R4-SB03-3-4	Mercury	0.071U mg/Kg	A
K2502505	TO63-R4-SB02-0-0.5	Mercury	0.041U mg/Kg	A
K2502505	TO63-R4-SB01-0-0.5**	Mercury	0.047U mg/Kg	A
K2502505	TO63-SPN-SB03-4-5	Mercury	0.061U mg/Kg	A
K2502505	TO63-SPN-SB01-0-0.5	Mercury	0.059U mg/Kg	A

SDG	Sample	Analyte	Modified Final Concentration	A or P
K2502505	TO63-SPN-SB01-0-0.5 Dup	Mercury	0.092U mg/Kg	A
K2502505	TO63-SPN-SB01-3-4**	Mercury	0.047U mg/Kg	A
K2502505	TO63-RSP-SB02-0-0.5	Mercury	0.072U mg/Kg	A
K2502505	TO63-RSP-SB02-5-6**	Mercury	0.036U mg/Kg	A
K2502505	TO63-RSP-SB03-0-0.5	Mercury	0.029U mg/Kg	A
K2502505	TO63-RSP-SB03-5-6	Mercury Silver	0.016U mg/Kg 0.011U mg/Kg	A

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R3-SB04-0-0.5

Lab Code: K2502505-001

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.07		N
Arsenic	200.8	0.57	0.06	5	4/14/05	4/22/05	1.83		
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	218		*
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	0.7	B	
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	0.9	U	
Chromium	6010B	2.2	0.7	2	4/14/05	4/20/05	14.3		
Cobalt	6010B	2.2	2.2	2	4/14/05	4/20/05	5.2		
Copper	6010B	2.2	1.0	2	4/14/05	4/20/05	7.3		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	8.97		
Mercury	7471A	0.016	0.008	1	4/11/05	4/12/05	0.032		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/20/05	2.2	U	
Nickel	200.8	0.23	0.05	5	4/14/05	4/22/05	17.3		
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.2	B	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.106		
Thallium	200.8	0.023	0.002	5	4/14/05	4/22/05	0.072		
Vanadium	6010B	2.2	1.0	2	4/14/05	4/20/05	23.0		
Zinc	6010B	2.2	0.6	2	4/14/05	4/20/05	27.9		*N

% Solids: 88.5

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R3-SB04-2-3

Lab Code: K2502505-002

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.08		N
Arsenic	200.8	0.47	0.05	5	4/14/05	4/22/05	9.01		
Barium	6010B	0.9	0.2	2	4/14/05	4/20/05	36.6		*
Beryllium	6010B	0.9	0.1	2	4/14/05	4/20/05	0.4	B	
Cadmium	6010B	0.9	0.7	2	4/14/05	4/20/05	0.7	U	
Chromium	6010B	1.9	0.6	2	4/14/05	4/20/05	88.2		
Cobalt	6010B	1.9	1.9	2	4/14/05	4/20/05	8.4		
Copper	6010B	1.9	0.8	2	4/14/05	4/20/05	37.6		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	9.31		
Mercury	7471A	0.018	0.009	1	4/11/05	4/12/05	0.062		
Molybdenum	6010B	1.9	1.9	2	4/14/05	4/20/05	1.9	U	
Nickel	200.8	0.19	0.04	5	4/14/05	4/22/05	43.4		
Selenium	200.8	0.9	0.1	5	4/14/05	4/22/05	0.6	B	
Silver	200.8	0.019	0.003	5	4/14/05	4/15/05	0.103		
Thallium	200.8	0.019	0.002	5	4/14/05	4/22/05	0.145		
Vanadium	6010B	1.9	0.8	2	4/14/05	4/20/05	65.9		
Zinc	6010B	1.9	0.5	2	4/14/05	4/20/05	88.0		*N

% Solids: 59.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R3-SB01-0-0.5

Lab Code: K2502505-003

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.11		N
Arsenic	200.8	0.58	0.06	5	4/14/05	4/22/05	6.61		
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	144		*
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	0.9	B	
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	0.9	U	
Chromium	6010B	2.3	0.7	2	4/14/05	4/20/05	47.1		
Cobalt	6010B	2.3	2.3	2	4/14/05	4/20/05	55.8		
Copper	6010B	2.3	1.0	2	4/14/05	4/20/05	20.1		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	10.8		
Mercury	7471A	0.020	0.010	1	4/11/05	4/12/05	0.047		
Molybdenum	6010B	2.3	2.3	2	4/14/05	4/20/05	2.3	U	
Nickel	200.8	0.23	0.05	5	4/14/05	4/22/05	34.6		
Selenium	200.8	1.2	0.1	5	4/14/05	4/22/05	0.4	B	
Silver	200.8	0.023	0.003	5	4/14/05	4/15/05	3.140		
Thallium	200.8	0.023	0.002	5	4/14/05	4/22/05	0.109		
Vanadium	6010B	2.3	1.0	2	4/14/05	4/20/05	42.4		
Zinc	6010B	2.3	0.6	2	4/14/05	4/20/05	57.3		*N

% Solids: 71.6

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R3-SB01-4-5

Lab Code: K2502505-004

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.08		N
Arsenic	200.8	0.57	0.06	5	4/14/05	4/22/05	1.68		
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	263		*
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	1.0	B	
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	0.9	U	
Chromium	6010B	2.3	0.7	2	4/14/05	4/20/05	15.3		
Cobalt	6010B	2.3	2.3	2	4/14/05	4/20/05	18.5		
Copper	6010B	2.3	1.0	2	4/14/05	4/20/05	8.9		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	8.69		
Mercury	7471A	0.017	0.009	1	4/11/05	4/12/05	0.032		
Molybdenum	6010B	2.3	2.3	2	4/14/05	4/20/05	2.3	U	
Nickel	200.8	0.23	0.05	5	4/14/05	4/22/05	18.8		
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.2	B	
Silver	200.8	0.023	0.003	5	4/14/05	4/15/05	0.361		
Thallium	200.8	0.023	0.002	5	4/14/05	4/22/05	0.087		
Vanadium	6010B	2.3	1.0	2	4/14/05	4/20/05	25.6		
Zinc	6010B	2.3	0.6	2	4/14/05	4/20/05	29.6		*N

% Solids: 87.6

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R3-SB02-0-0.5

Lab Code: K2502505-005

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.17		N
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	3.87		
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	120		*
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	0.8	B	
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	0.9	U	
Chromium	6010B	2.2	0.7	2	4/14/05	4/20/05	22.1		
Cobalt	6010B	2.2	2.2	2	4/14/05	4/20/05	7.2		
Copper	6010B	2.2	1.0	2	4/14/05	4/20/05	15.0		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	25.7		
Mercury	7471A	0.016	0.008	1	4/11/05	4/12/05	0.080		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/20/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	25.6		
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.3	B	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	1.760		
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.103		
Vanadium	6010B	2.2	1.0	2	4/14/05	4/20/05	26.9		
Zinc	6010B	2.2	0.6	2	4/14/05	4/20/05	74.8		*N

% Solids: 88.1

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R3-SB03-0-0.5

Lab Code: K2502505-006

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.24		N
Arsenic	200.8	0.60	0.06	5	4/14/05	4/22/05	2.01		
Barium	6010B	1.2	0.2	2	4/14/05	4/20/05	183		*
Beryllium	6010B	1.2	0.1	2	4/14/05	4/20/05	1.1	B	
Cadmium	6010B	1.2	0.9	2	4/14/05	4/20/05	0.9	U	
Chromium	6010B	2.4	0.7	2	4/14/05	4/20/05	26.6		
Cobalt	6010B	2.4	2.4	2	4/14/05	4/20/05	9.1		
Copper	6010B	2.4	1.1	2	4/14/05	4/20/05	25.3		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	102		
Mercury	7471A	0.019	0.010	1	4/11/05	4/12/05	0.095		
Molybdenum	6010B	2.4	2.4	2	4/14/05	4/20/05	2.4	U	
Nickel	200.8	0.24	0.05	5	4/14/05	4/22/05	28.1		
Selenium	200.8	1.2	0.1	5	4/14/05	4/22/05	0.2	B	
Silver	200.8	0.024	0.004	5	4/14/05	4/15/05	0.056		
Thallium	200.8	0.024	0.002	5	4/14/05	4/22/05	0.068		
Vanadium	6010B	2.4	1.1	2	4/14/05	4/20/05	30.3		
Zinc	6010B	2.4	0.6	2	4/14/05	4/20/05	79.9		*N

% Solids: 83.8

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R4-SB03-0-0.5

Lab Code: K2502505-007

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.66		N
Arsenic	200.8	0.54	0.05	5	4/14/05	4/22/05	2.33		
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	176		*
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	1.0	B	
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	1.4		
Chromium	6010B	2.2	0.6	2	4/14/05	4/20/05	23.2		
Cobalt	6010B	2.2	2.2	2	4/14/05	4/20/05	9.9		
Copper	6010B	2.2	1.0	2	4/14/05	4/20/05	27.3		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	234		
Mercury	7471A	0.019	0.010	1	4/11/05	4/12/05	0.054		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/20/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	32.6		
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.2	B	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	4.130		
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.073		
Vanadium	6010B	2.2	1.0	2	4/14/05	4/20/05	24.7		
Zinc	6010B	2.2	0.5	2	4/14/05	4/20/05	85.7		*N

% Solids: 92.6

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R4-SB03-3-4

Lab Code: K2502505-008

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.16		N
Arsenic	200.8	0.55	0.05	5	4/14/05	4/22/05	7.86		
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	43.7		*
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	0.5	B	
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	0.9	U	
Chromium	6010B	2.2	0.7	2	4/14/05	4/20/05	101		
Cobalt	6010B	2.2	2.2	2	4/14/05	4/20/05	10.5		
Copper	6010B	2.2	1.0	2	4/14/05	4/20/05	32.8		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	11.5		
Mercury	7471A	0.019	0.009	1	4/11/05	4/12/05	0.071		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/20/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	48.5		
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.4	B	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.073		
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.128		
Vanadium	6010B	2.2	1.0	2	4/14/05	4/20/05	71.4		
Zinc	6010B	2.2	0.6	2	4/14/05	4/20/05	110		*N

% Solids: 64.0

Comments:

6/19/05

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R4-SB02-0-0.5

Lab Code: K2502505-009

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.67		N
Arsenic	200.8	0.54	0.05	5	4/14/05	4/22/05	2.07		
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	214		*
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	0.9	B	
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	0.9	U	
Chromium	6010B	2.2	0.7	2	4/14/05	4/20/05	29.5		
Cobalt	6010B	2.2	2.2	2	4/14/05	4/20/05	8.1		
Copper	6010B	2.2	1.0	2	4/14/05	4/20/05	62.0		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	162		
Mercury	7471A	0.019	0.010	1	4/11/05	4/12/05	0.041		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/20/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	22.3		
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.3	B	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.079		
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.080		
Vanadium	6010B	2.2	1.0	2	4/14/05	4/20/05	27.6		
Zinc	6010B	2.2	0.6	2	4/14/05	4/20/05	77.5		*N

% Solids: 90.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/06/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-R4-SB01-0-0.5

Lab Code: K2502505-010

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.13		N
Arsenic	200.8	0.53	0.05	5	4/14/05	4/22/05	1.45		
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	183		*
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	0.9	B	
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	0.9	U	
Chromium	6010B	2.2	0.6	2	4/14/05	4/20/05	17.0		
Cobalt	6010B	2.2	2.2	2	4/14/05	4/20/05	6.7		
Copper	6010B	2.2	1.0	2	4/14/05	4/20/05	9.7		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	16.5		
Mercury	7471A	0.019	0.010	1	4/11/05	4/12/05	0.047		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/20/05	2.2	U	
Nickel	200.8	0.21	0.04	5	4/14/05	4/22/05	21.0		
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.2	B	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.042		
Thallium	200.8	0.021	0.002	5	4/14/05	4/22/05	0.075		
Vanadium	6010B	2.2	1.0	2	4/14/05	4/20/05	22.9		
Zinc	6010B	2.2	0.5	2	4/14/05	4/20/05	43.4		*N

% Solids: 92.5

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-SPN-SB03-4-5

Lab Code: K2502505-011

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.07		N
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	7.73		
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	34.5		*
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	0.4	B	
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	0.9	U	
Chromium	6010B	2.2	0.7	2	4/14/05	4/20/05	74.9		
Cobalt	6010B	2.2	2.2	2	4/14/05	4/20/05	9.9		
Copper	6010B	2.2	1.0	2	4/14/05	4/20/05	26.8		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	7.48		
Mercury	7471A	0.019	0.010	1	4/11/05	4/12/05	0.061		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/20/05	2.2	U	
Nickel	200.8	0.22	0.04	5	4/14/05	4/22/05	44.5		
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.5	B	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.073		
Thallium	200.8	0.022	0.002	5	4/14/05	4/22/05	0.115		
Vanadium	6010B	2.2	1.0	2	4/14/05	4/20/05	58.6		
Zinc	6010B	2.2	0.6	2	4/14/05	4/20/05	157		*N

% Solids: 64.1

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-SPN-SB01-0-0.5

Lab Code: K2502505-012

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.13		N
Arsenic	200.8	0.53	0.05	5	4/14/05	4/22/05	8.81		
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	55.8		*
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	0.5	B	
Cadmium	6010B	1.1	0.8	2	4/14/05	4/20/05	0.8	U	
Chromium	6010B	2.1	0.6	2	4/14/05	4/20/05	94.8		
Cobalt	6010B	2.1	2.1	2	4/14/05	4/20/05	10.0		
Copper	6010B	2.1	0.9	2	4/14/05	4/20/05	34.2		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	24.0		
Mercury	7471A	0.019	0.009	1	4/11/05	4/12/05	0.059		
Molybdenum	6010B	2.1	2.1	2	4/14/05	4/20/05	2.1	U	
Nickel	200.8	0.21	0.04	5	4/14/05	4/22/05	49.2		
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.6	B	
Silver	200.8	0.021	0.003	5	4/14/05	4/15/05	0.094		
Thallium	200.8	0.021	0.002	5	4/14/05	4/22/05	0.150		
Vanadium	6010B	2.1	0.9	2	4/14/05	4/20/05	73.1		
Zinc	6010B	2.1	0.5	2	4/14/05	4/20/05	91.1		*N

% Solids: 67.4

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-SPN-SB01-0-0.5 DUF

Lab Code: K2502505-013

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.14		N
Arsenic	200.8	0.52	0.05	5	4/14/05	4/22/05	6.15		
Barium	6010B	1.0	0.2	2	4/14/05	4/20/05	55.9		*
Beryllium	6010B	1.0	0.1	2	4/14/05	4/20/05	0.6	B	
Cadmium	6010B	1.0	0.8	2	4/14/05	4/20/05	0.8	U	
Chromium	6010B	2.1	0.6	2	4/14/05	4/20/05	83.6		
Cobalt	6010B	2.1	2.1	2	4/14/05	4/20/05	9.8		
Copper	6010B	2.1	0.9	2	4/14/05	4/20/05	30.5		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	19.2		
Mercury	7471A	0.020	0.010	1	4/11/05	4/12/05	0.092		
Molybdenum	6010B	2.1	2.1	2	4/14/05	4/20/05	2.1	U	
Nickel	200.8	0.21	0.04	5	4/14/05	4/22/05	46.9		
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.5	B	
Silver	200.8	0.021	0.003	5	4/14/05	4/15/05	0.093		
Thallium	200.8	0.021	0.002	5	4/14/05	4/22/05	0.141		
Vanadium	6010B	2.1	0.9	2	4/14/05	4/20/05	76.0		
Zinc	6010B	2.1	0.5	2	4/14/05	4/20/05	86.3		*N

% Solids: 68.1

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-SPN-SB01-3-4

Lab Code: K2502505-014

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.06		N
Arsenic	200.8	0.51	0.05	5	4/14/05	4/22/05	4.92		
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	30.2		*
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	0.2	B	
Cadmium	6010B	1.1	0.8	2	4/14/05	4/20/05	0.8	U	
Chromium	6010B	2.1	0.6	2	4/14/05	4/20/05	30.1		
Cobalt	6010B	2.1	2.1	2	4/14/05	4/20/05	3.5		
Copper	6010B	2.1	0.9	2	4/14/05	4/20/05	11.1		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	5.38		
Mercury	7471A	0.020	0.010	1	4/11/05	4/12/05	0.047		
Molybdenum	6010B	2.1	2.1	2	4/14/05	4/20/05	2.1	U	
Nickel	200.8	0.21	0.04	5	4/14/05	4/22/05	17.3		
Selenium	200.8	1.0	0.1	5	4/14/05	4/22/05	0.2	B	
Silver	200.8	0.021	0.003	5	4/14/05	4/15/05	0.032		
Thallium	200.8	0.021	0.002	5	4/14/05	4/22/05	0.080		
Vanadium	6010B	2.1	0.9	2	4/14/05	4/20/05	27.0		
Zinc	6010B	2.1	0.5	2	4/14/05	4/20/05	33.0		*N

% Solids: 79.4

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-RSP-SB02-0-0.5

Lab Code: K2502505-015

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	5	4/14/05	4/15/05	0.13		N
Arsenic	200.8	0.51	0.05	5	4/14/05	4/22/05	10.9		
Barium	6010B	1.0	0.2	2	4/14/05	4/20/05	39.6		*
Beryllium	6010B	1.0	0.1	2	4/14/05	4/20/05	0.3	B	
Cadmium	6010B	1.0	0.8	2	4/14/05	4/20/05	0.8	U	
Chromium	6010B	2.1	0.6	2	4/14/05	4/20/05	76.6		
Cobalt	6010B	2.1	2.1	2	4/14/05	4/20/05	7.0		
Copper	6010B	2.1	0.9	2	4/14/05	4/20/05	34.2		
Lead	200.8	0.05	0.02	5	4/14/05	4/22/05	11.9		
Mercury	7471A	0.016	0.008	1	4/11/05	4/12/05	0.072		
Molybdenum	6010B	2.1	2.1	2	4/14/05	4/20/05	2.1	U	
Nickel	200.8	0.20	0.04	5	4/14/05	4/22/05	28.3		
Selenium	200.8	1.0	0.1	5	4/14/05	4/22/05	0.7	B	
Silver	200.8	0.021	0.003	5	4/14/05	4/15/05	0.096		
Thallium	200.8	0.020	0.002	5	4/14/05	4/22/05	0.114		
Vanadium	6010B	2.1	0.9	2	4/14/05	4/20/05	61.2		
Zinc	6010B	2.1	0.5	2	4/14/05	4/20/05	65.6		*N

% Solids: 69.1

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-RSP-SB02-5-6

Lab Code: K2502505-016

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.10		N
Arsenic	200.8	0.59	0.06	5	4/14/05	4/22/05	2.82		
Barium	6010B	1.2	0.2	2	4/14/05	4/20/05	45.9		*
Beryllium	6010B	1.2	0.1	2	4/14/05	4/20/05	0.8	B	
Cadmium	6010B	1.2	0.9	2	4/14/05	4/20/05	0.9	U	
Chromium	6010B	2.3	0.7	2	4/14/05	4/20/05	19.3		
Cobalt	6010B	2.3	2.3	2	4/14/05	4/20/05	3.1		
Copper	6010B	2.3	1.1	2	4/14/05	4/20/05	6.3		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	7.69		
Mercury	7471A	0.017	0.009	1	4/11/05	4/12/05	0.036		
Molybdenum	6010B	2.3	2.3	2	4/14/05	4/20/05	2.3	U	
Nickel	200.8	0.24	0.05	5	4/14/05	4/22/05	7.57		
Selenium	200.8	1.2	0.1	5	4/14/05	4/22/05	0.3	B	
Silver	200.8	0.023	0.003	5	4/14/05	4/15/05	0.042		
Thallium	200.8	0.024	0.002	5	4/14/05	4/22/05	0.115		
Vanadium	6010B	2.3	1.1	2	4/14/05	4/20/05	38.7		
Zinc	6010B	2.3	0.6	2	4/14/05	4/20/05	24.0		*N

% Solids: 85.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute

Service Request: K2502505

Project No.: G486063

Date Collected: 04/05/05

Project Name: Novato Ballfields

Date Received: 04/07/05

Matrix: SOIL

Units: mg/kg

Basis: Dry

Sample Name: TO63-RSP-SB03-0-0.5

Lab Code: K2502505-017

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.08		N
Arsenic	200.8	0.56	0.06	5	4/14/05	4/22/05	1.52		
Barium	6010B	1.1	0.2	2	4/14/05	4/20/05	177		*
Beryllium	6010B	1.1	0.1	2	4/14/05	4/20/05	1.1		
Cadmium	6010B	1.1	0.9	2	4/14/05	4/20/05	1.0	B	
Chromium	6010B	2.2	0.7	2	4/14/05	4/20/05	12.6		
Cobalt	6010B	2.2	2.2	2	4/14/05	4/20/05	4.6		
Copper	6010B	2.2	1.0	2	4/14/05	4/20/05	7.2		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	9.30		
Mercury	7471A	0.019	0.009	1	4/11/05	4/12/05	0.029		
Molybdenum	6010B	2.2	2.2	2	4/14/05	4/20/05	2.2	U	
Nickel	200.8	0.23	0.05	5	4/14/05	4/22/05	15.2		
Selenium	200.8	1.1	0.1	5	4/14/05	4/22/05	0.3	B	
Silver	200.8	0.022	0.003	5	4/14/05	4/15/05	0.074		
Thallium	200.8	0.023	0.002	5	4/14/05	4/22/05	0.085		
Vanadium	6010B	2.2	1.0	2	4/14/05	4/20/05	25.5		
Zinc	6010B	2.2	0.6	2	4/14/05	4/20/05	31.8		*N

% Solids: 88.8

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Battelle Memorial Institute
 Project No.: G486063
 Project Name: Novato Ballfields
 Matrix: SOIL

Service Request: K2502505
 Date Collected: 04/05/05
 Date Received: 04/07/05
 Units: mg/kg
 Basis: Dry

Sample Name: TO63-RSP-SB03-5-6

Lab Code: K2502505-018

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.06	0.02	5	4/14/05	4/15/05	0.08		N
Arsenic	200.8	0.58	0.06	5	4/14/05	4/22/05	2.77		
Barium	6010B	1.2	0.2	2	4/14/05	4/20/05	27.2		*
Beryllium	6010B	1.2	0.1	2	4/14/05	4/20/05	0.2	B	
Cadmium	6010B	1.2	0.9	2	4/14/05	4/20/05	0.9	U	
Chromium	6010B	2.3	0.7	2	4/14/05	4/20/05	18.6		
Cobalt	6010B	2.3	2.3	2	4/14/05	4/20/05	2.3	U	
Copper	6010B	2.3	1.0	2	4/14/05	4/20/05	6.8		
Lead	200.8	0.06	0.02	5	4/14/05	4/22/05	5.58		
Mercury	7471A	0.019	0.009	1	4/11/05	4/12/05	0.016	B	
Molybdenum	6010B	2.3	2.3	2	4/14/05	4/20/05	2.3	U	
Nickel	200.8	0.23	0.05	5	4/14/05	4/22/05	10.1		
Selenium	200.8	1.2	0.1	5	4/14/05	4/22/05	0.1	U	
Silver	200.8	0.023	0.003	5	4/14/05	4/15/05	0.011	B	
Thallium	200.8	0.023	0.002	5	4/14/05	4/22/05	0.089		
Vanadium	6010B	2.3	1.0	2	4/14/05	4/20/05	32.0		
Zinc	6010B	2.3	0.6	2	4/14/05	4/20/05	19.8		*N

* Solids: 86.2

Comments:

LDC #: 13575C4

VALIDATION COMPLETENESS WORKSHEET

SDG #: K2502505

Level III/IV

Laboratory: Columbia Analytical Services

Date: 6-8-05

Page: 1 of 1

Reviewer: MG

2nd Reviewer: MH

METHOD: Metals (EPA SW 846 Method 6010B/7000)/200.8

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-5-05 ⁵ through 4-6-05
II.	Calibration	A	
III.	Blanks	SW	
IV.	ICP Interference Check Sample (ICS) Analysis	SW	
V.	Matrix Spike Analysis	SW	MS
VI.	Duplicate Sample Analysis	SW	DUP
VII.	Laboratory Control Samples (LCS)	ASW	LCS
VIII.	Internal Standard (ICP-MS)	A	
IX.	Furnace Atomic Absorption QC	N	Not utilized
X.	ICP Serial Dilution	SW	
XI.	Sample Result Verification	A	Not reviewed for Level III validation.
XII.	Overall Assessment of Data	A	
XIII.	Field Duplicates	SW	D = 12 + 13
XIV.	Field Blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinstate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

all soil

1	TO63-R3-SB04-0-0.5	11	TO63-SPN-SB03-4-5	21	TO63-SPN-SB03-4-5MS	31	
2	TO63-R3-SB04-2-3**	12	TO63-SPN-SB01-0-0.5	22	TO63-SPN-SB03-4-5DUP	32	
3	TO63-R3-SB01-0-0.5	13	TO63-SPN-SB01-0-0.5 Dup	23	PBS	33	
4	TO63 R3 SB01-1-5	14	TO63-SPN-SB01-3-4**	24		34	
5	TO63-R3-SB02-0-0.5	15	TO63-RSP-SB02-0-0.5	25		35	
6	TO63-R3-SB03-0-0.5**	16	TO63-RSP-SB02-5-6**	26		36	
7	TO63-R4-SB03-0-0.5	17	TO63-RSP-SB03-0-0.5	27		37	
8	TO63-R4-SB03-3-4	18	TO63-RSP-SB03-5-6	28		38	
9	TO63-R4-SB02-0-0.5	19	TO63-R3-SB04-0-0.5MS	29		39	
10	TO63-R4-SB01-0-0.5**	20	TO63-R3-SB04-0-0.5DUP	30		40	

Notes: _____

LDC #: 13575C4
SDG #: K2502505

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: MG
2nd Reviewer: MV

Method: Metals (EPA SW 826 Method 6010/7000/6020)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury and 85-115% for cyanide) QC limits?	✓			
Were all initial calibration correlation coefficients ≥ 0.995 ?	✓			
Was a midrange cyanide standard distilled?			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
IV. ICP Interference Check Sample				
Were ICP interference check samples performed daily?		✓		
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	✓			
IV. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.		✓		
Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of $\pm 2X$ RL for soil was used for samples that were $\leq 5X$ the RL, including when only one of the duplicate sample values were $\leq 5X$ the RL.		✓		
V. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?		✓		
VI. Furnace Atomic Absorption QC				
If MSA was performed, was the correlation coefficients ≥ 0.995 ?			✓	
Do all applicable analyses have duplicate injections?			✓	

LDC #: 13575C4
SDG #: K0502505

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: MG
2nd Reviewer: MM

Validation Area	Yes	No	NA	Findings/Comments
For sample concentrations > RL, are applicable duplicate injection RSD values < 20%?			✓	
Were analytical spike recoveries within the 85-115% QC limits?			✓	
VII. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the IDL?	✓			
Were all percent differences (%Ds) ≤ 10%?		✓		
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		✓		
VIII. Internal Standards (EPA SW 846 Method 8020)				
Were all the percent recoveries (%R) within the 30-120% ⁶⁰⁻¹²⁵ of the intensity of the internal standard in the associated initial calibration?	✓			
If the %Rs were outside the criteria, was a reanalysis performed?			✓	
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.	✓			
XIII. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

Page: 1 of 1
Reviewer: MG
2nd reviewer: lyn

[illegible]

ELEMENTS.4

VALIDATION FINDINGS WORKSHEET
 PB/ICB/CCB QUALIFIED SAMPLES
 SDG #: 13575C4
 METHOD: Trace Metals (EPA SW 846 Method 6010/7000) Soil preparation factor applied: 100 x ; ICP analysis ; ICP-MS 5x dil
 Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: qll

Sample Identification																			
Analyte	Maximum PB* (mg/kg)	Maximum PB* (ug/L)	Maximum ICB/CCB* (ug/L)	Blank Action Limit	1	2	3	4	5	7	8	9	10	11					
Al																			
Sb																			
As																			
Ba																			
Be																			
Cd																			
Ce																			
Cr																			
Co																			
Cu			5.9	5.9															
Fe																			
Pb																			
Mg																			
Mn																			
Hg			0.188	0.094	0.032	0.062	0.047	0.032	0.080	0.054	0.071	0.041	0.047	0.061					
Ni	0.07		0.14	0.35															
K																			
Se																			
Ag			0.009	0.022															
Na																			
Ti			0.005	0.012															
V																			
Zn			4.0	4.0															
B																			
Mo																			
Sr																			

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
 Note: a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 13575CH
SDG #: K2502505

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Pages: 2 of 2
Reviewer: MG
2nd Reviewer: MJ

METHOD: Trace Metals (EPA SW 846 Method 6010/7000) Soil preparation factor applied: 100x; ICP analysis: ICP-MS 5x dil
Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: all

Sample Identification																			
Analyte	Maximum Pb* (mg/kg)	Maximum Pb* (ug/L)	Maximum ICB/CCB* (ug/L)	Blank Action Limit	12	13	14	15	16	17	18								
Al																			Al
Sb																			Sb
As																			As
Ba																			Ba
Be																			Be
Cd																			Cd
Ca																			Ca
Cr																			Cr
Cu																			Cu
Fe																			Fe
Pb																			Pb
Mg																			Mg
Mn																			Mn
Hg																			Hg
Ni																			Ni
K																			K
Se																			Se
Ag																			Ag
Na																			Na
Tl																			Tl
V																			V
Zn																			Zn
B																			B
Mo																			Mo
Sr																			Sr

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note: a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET

Page: 1 of 1
Reviewer: MG
2nd Reviewer: my

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Were the AB solution percent recoveries (%R) within the control limits of 80-120%?

Y	N	N/A	Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	

[illegible]

Comments:

VALIDATION FINDINGS WORKSHEET

Matrix Spike Analysis

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Was a matrix spike analyzed for each matrix in this SDG?	Y	N	N/A
----------------------------------------------------------	---	---	-----

Was a post digestion spike analyzed for ICP elements that did not meet the required criteria for matrix spike recovery?

Y N N/A

☒ N ☐ N/A

[illegible]

MS.4S2

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Was a duplicate sample analyzed for each matrix in this SDG?

Y (N) N/A

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

[illegible]

Comments:

LDC#: 13575C4
SDG#: K2502505

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: MG
2nd Reviewer: HH

METHOD: Metals (EPA Method 6010B/7000)

☒ **Y** **N** **NA**
☒ **Y** **N** **NA**

Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

Compound	Concentration (mg/kg)		RPD	
	12	13		
Antimony	0.13	0.14	7	
Arsenic	8.81	6.15	36	
Barium	55.8	55.9	0	
Beryllium	0.5	0.6	18	
Chromium	94.8	83.6	13	
Cobalt	10.0	9.8	2	
Copper	34.2	30.5	11	
Lead	24.0	19.2	22	
Mercury	0.059	0.092	44	
Nickel	49.2	46.9	5	
Selenium	0.6	0.5	18	
Silver	0.094	0.093	1	
Thallium	0.150	0.141	6	
Vanadium	73.1	76.0	4	
Zinc	91.1	86.3	5	

V:\FIELD DUPLICATES\FD_inorganic\13575C4.wpd

LDC #: 1357504
SDG #: K2502505

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd Reviewer: MJH

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$\%R = \frac{\text{Found}}{\text{True}} \times 100$ Where Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated		Reported		Acceptable (Y/N)
					%R		%R		
10925 ICV	ICP (Initial calibration)	Ba	4894	5000	98		98		Y
0959 ICV	GFAA (Initial calibration) ICP-MS	Pb	50.17	50.0	100		100		Y
1406 ICV	CVAA (Initial calibration)	Hg	5.47	5.0	109		109		
1104 CCV5	ICP (Continuing calibration)	Co	501.0	500	100		100		
1930 CCV7	GFAA (Continuing calibration) ICP-MS	Ni	25.72	25.0	103		103		
1409 CCV1	CVAA (Continuing calibration)	Hg	5.18	5.0	104		104		
	Cyanide (Initial calibration)								
	Cyanide (Continuing calibration)								

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 13575C4
SDG #: 10502505

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: MG
2nd Reviewer: MJ

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found} - \text{True}}{\text{True}} \times 100$$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation,
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$

Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$$\%D = \frac{|I-SDR|}{I} \times 100$$

Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated		Reported		Acceptable (Y/N)
					%R / RPD / %D	%R / RPD / %D	%R / RPD / %D	%R / RPD / %D	
0943 ICSA B	ICP interference check	Cv	447.1 (µg/L)	500 (µg/L)	89	89	89	89	Y
1113 LCS	Laboratory control sample	Be	46.34 (mg/kg)	45.0 (mg/kg)	103	103	103	103	Y
1253 19	Matrix spike	Sb (SSR-SR)	32.05 (mg/kg)	112 (mg/kg)	29	29	29	29	
1114 / 1116 20	Duplicate	Zn	27.87 (mg/kg)	80.52 (mg/kg)	97	97	97	97	
1114 / 1119 1	ICP serial dilution	Ba	983.5 (µg/L)	1028.5 (µg/L)	5	5	5	5	↓

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 13575C4
SDG #: K2502505

VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd reviewer: MM

METHOD: Trace Metals (EPA SW 846 Method 8010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- (Y) N N/A Have results been reported and calculated correctly?
(Y) N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
(Y) N N/A Are all detection limits below the CRDL?

Detected analyte results for # 2, Hg were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(DII)}{(In. Vol.)(\%S)}$

Recalculation:

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
DII = Dilution factor
%S = Decimal percent solids

$$\frac{(0.67 \mu g/L)(0.100 L)(1)}{(1.85 g)(0.590 \text{ solid})} = 0.0614 \mu g/g \text{ or } mg/kg$$

Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
2	Sb	0.08	0.08	Y
	As	9.01	9.01	
	Ba	36.6	36.6	
	Be	0.4	0.4	
	Cr	88.2	88.2	
	Co	8.4	8.4	
	Cu	37.6	37.6	
	Pb	9.31	9.31	
	Hg	0.062	0.061	
	Ni	43.4	43.4	
	Se	0.6	0.6	
	Ag	0.103	0.103	
	Tl	0.145	0.145	
	V	65.9	65.9	
	Zn	88.0	88.0	